SyncMaster T200HD/T220HD/T240HD/T260HD

LCD Monitor

User Manual

Safety Instructions

Notational

Note

These safety instructions must be followed to ensure your safety and prevent property damage.

Make sure to read the instructions carefully and use the product in the correct manner.

Warning / Caution

Otherwise, it may result in death or personal injury.

Otherwise, it may result in personal injury or property damage.

Notational Conventions

Prohibited	Important to read and understand at all times
Do not disassemble	Disconnect the plug from the outlet
Do not touch	Ground to prevent an electric shock

Power

When not used for extended period of time, set your computer to DPM.

If using screen saver, set it to active screen mode.

Shortcut to Anti-Afterimage Instructions

Note

The images here are for reference only, and are not applicable in all cases (or countries).

Do not use a damaged power cord or plug or a damaged or loose power outlet.

- Otherwise, this may result in electric shock or fire.

Do not touch the power plug with wet hands when removing or plugging the plug into the outlet.

- Otherwise, this may result in electric shock.

Make sure to connect the power cord to a grounded power outlet.

- Otherwise, it may result in electric shock or personal injury.

Ensure that the power plug is plugged into the power outlet firmly and correctly.

- Otherwise, this may result in fire.

Do not forcefully bend or pull the power plug and do not place any heavy material on it.

- Otherwise, this may result in fire.

Do not connect multiple appliances to the same power outlet.

- Otherwise, this may cause fire due to overheating.

Do not disconnect the power cord while using the product.

- Otherwise, this may result in damage to the product due to electric shock.

To disconnect the apparatus from the mains, the plug must be pulled out from the mains socket, therefore the mains plug shall be readily operable.

- This may cause electric shock or fire.

Use only the power cord provided by our company. Do not use the provided power cord of another product.

- Otherwise, this may result in fire or electric shock.

Installation

Be sure to contact an authorized Service Center when installing your monitor in a location with heavy dust, high or low temperatures, high humidity, and exposed to chemical substances and where it operates for 24 hours such as at airports, train stations etc.

Failure to do so may cause serious damage to your monitor.

Do not drop the monitor when moving it.

- This may cause damage to the product or the person carrying it.

When installing the product in a cabinet or rack, make sure that the front end of the bottom of the product does not project out.

- Otherwise, it may fall or cause personal injury.
- Use a cabinet or rack of a size appropriate to the product.

Do not place candles, mosquito repellant, cigarettes and any heating appliances near the product.

- Otherwise, this may result in fire.

Keep heating appliances as far away from the power cord or the product as possible.

- Otherwise, this may result in electric shock or fire.

Do not install it in a badly ventilated location such as a bookcase or closet.

- Otherwise, this may result in fire due to an increase in the internal temperature.

Put down the monitor carefully.

- Failing to do so may damage the monitor.

Do not place the front of the product on the floor.

- Otherwise, this may result in damage to the screen display.

Ensure that an authorized installation company installs the wall mount.

- Otherwise, it may fall and cause personal injury.
- Make sure to install the specified wall mount.

Install your product in a well ventilated location. Ensure that there is a clearance of more than 10 cm from the wall.

- Otherwise, it may result in fire due to an increase in the internal temperature.

Bend the outdoor antenna cable downwards at the location where it goes in so that rainwater does not flow in.

- If rainwater enters the product, it may result in electric shock or fire.

Install the antenna far away from any high voltage cables.

- If the antenna touches or falls onto a high voltage cable, it may result in electric shock or fire.

Ensure that the packaging vinyl is kept away from children.

- Otherwise, it may result in serious harm (suffocation) if children play with it.

If the height of your monitor is adjustable, do not place any object or part of your body on the stand when lowering it.

- This may cause damage to the product or the person carrying it.

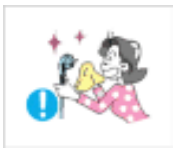
Clean

When cleaning the monitor case or the surface of the TFT-LCD screen, wipe with a slightly moistened, soft fabric.

Do not spray cleaner directly onto the surface of the product.

- Otherwise, this may result in the discoloration and distortion of the structure and the screen surface may peel off.

Clean the product using a soft cloth with a monitor cleaner only. If you must use a cleaner other than the monitor cleaner, dilute it with water at a ratio of 1:10.



When cleaning the power plug pins or dusting the power outlet, clean it with a dry cloth.

- Otherwise, it may result in fire.

When cleaning the product, make sure to disconnect the power cord.

- Otherwise, it may result in electric shock or fire.

When cleaning the product, disconnect the power cord and clean it softly with a dry cloth.

- (Do not use chemicals such as wax, benzene, alcohol, thinner, mosquito repellant, lubricant, or cleaner.) These may change the appearance of the product surface and peel off the indication labels on the product.

Since the product housing is easily scratched, make sure to use the specified cloth only.

- Use the specified cloth adding only a little water. As the product may be scratched if there is any foreign material on the cloth, make sure to shake it thoroughly before using it.

When cleaning the product, do not spray water directly onto the main body of the product.

- Ensure that water does not enter the product and that it is not wet.
- Otherwise, this may result in electric shock, fire or a malfunction.

Others

The product is a high voltage product. Ensure that users do not disassemble, repair or modify the product themselves.

- Otherwise, this may result in electric shock or fire. If the product needs to be repaired, contact a Service Center.

If there is a strange smell or a strange sound or smoke is coming from the product, disconnect the power plug immediately and contact a Service Center.

- Otherwise, this may result in electric shock or fire.

Do not place this product in a location exposed to moisture, dust, smoke, water, or in a car.

- Otherwise, this may result in electric shock or fire.

When you drop the product or the case is broken, turn the power off and disconnect the power cord. Contact a Service Center.

- Otherwise, this may result in electric shock or fire.

If thunder or lightening is occurring, do not touch the power cord or antenna cable.

- Otherwise, this may result in electric shock or fire.

Do not try to move the monitor by pulling only the wire or the signal cable.

- Otherwise, it may fall and result in electric shock, damage to the product or fire due to damage to the cable.

Do not lift or move the product back and forwards or right and left while only holding the power cord or signal cables.

- Otherwise, it may fall and result in electric shock, damage to the product or fire due to damage to the cable.

Make sure that the ventilating opening is not blocked by a table or curtain.

- Otherwise, it may result in fire due to an increase in the internal temperature.

Do not place any containers containing water, vases, flowerpots, medicines as well as any metal on the product.

- If water or a foreign material enters the product, disconnect the power cord and contact a Service Center.
- This may result in a product malfunction, electric shock, or fire.

Do not use or keep combustible spray or flammable material near the product.

- Otherwise, this may result in an explosion or fire.

Do not insert any metal, such as chopsticks, coins, pins and steel, or flammable objects, such as matches or paper, inside the product (through the ventilating openings, input and output terminals, etc).

- If water or foreign material enters the product, disconnect the power cord and contact a Service Center.
- Otherwise, this may result in electric shock or fire.

When using a fixed screen for a long time, an afterimage or stain may occur.

- If you are not using your product for a long period of time, put it into sleep mode or use a moving screen saver.

Set a resolution and frequency appropriate to the product.

- Otherwise, your eyesight may be damaged.

When using headphones or earphones, do not turn the volume too high.

- Having the sound too loud may damage your hearing.

If you continually move closer to the product screen, your eyesight may be failing.

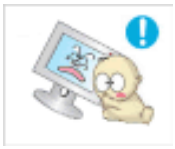
To ease eye strain, take at least a five-minute break after every hour of using the monitor.

Do not install it in an unstable location such as an unstable rack or uneven surface or a location exposed to vibrations.

- Otherwise, it may fall and cause personal injury and/or damage the product.
- If you use the product in a location exposed to vibrations, it may damage the product and result in fire.

When moving the product, turn the power off and disconnect the power plug, antenna cable, and all the cables connected to the product.

- Otherwise, it may result in electric shock or fire.



Ensure that children do not hang onto the product or climb up onto the product.

- The product may fall and cause personal injury or death.

If you do not use the product for a long period of time, disconnect the power cord from the power outlet.

- Otherwise, this may result in overheating or fire due to dust, and may result in fire due to electric shock or leakage.

Do not place any heavy items or toys or confectionery, such as cookies etc. that may attract the attention of children and to the product.

- Your children may hang onto the product causing it to fall and this may result in personal injury or death.

Be careful that children do not place the battery in their mouths when removed from the remote control. Place the battery in a location that children or infants cannot reach.

- If children have had the battery in their mouths, consult your doctor immediately.

When replacing the battery, insert it with right polarity (+, -).

- Otherwise, the battery may become damaged or it may cause fire, personal injury or damage due to leakage of the internal liquid.

Use only specified standard batteries. Do not use new and used batteries together.

- This may cause a battery to break or leak and may cause fire, injury, or contamination (damage).

The batteries (and rechargeable batteries) are not ordinary refuse and must be returned for recycling purposes. The customer is responsible for returning the used or rechargeable batteries for recycling.

- The customer can return used or rechargeable batteries to a nearby public recycling center or to a store selling the same type of the battery or rechargeable battery.

Do not turn the product upside down or move it while holding only the stand.

- Otherwise, it may fall and result in personal injury and/or damage to the product.

Do not place the product in a location exposed to direct sunlight or near any heat such as a fire or heater.

- This may reduce the lifetime of the product, and may result in fire.

Do not drop any objects onto the product or cause any impact to the product.

- Otherwise, this may result in electric shock or fire.

Do not use a humidifier or kitchen table near the product.

- Otherwise, this may result in electric shock or fire.

When there is a gas leak, do not touch the product or the power plug but ventilate immediately.

- If a spark occurs, it may cause an explosion or fire.

If the product has been turned on for a long time, the display panel becomes hot. Do not touch it.

Be careful when adjusting the angle of the product or the height of the stand.

- This may result in personal injury as your hand or fingers may become caught.
- Also, if you tilt the product too far, it may fall and cause personal injury.

Do not install the product in a location low enough for children to reach.

- Otherwise, it may fall and result in personal injury.
- Since the front part of the product is heavy, install the product on a level and stable surface.

Do not put any heavy objects on the product.

- This may result in personal injury and/or damage to the product.

Good Postures When Using the Monitor

When using the product, use it in the correct position.

- Keep your back straight while looking at the product.
- The distance between your eyes and the screen should be between 45 to 50 cm. Look at the screen from a slightly higher location than the height of the screen.
- When using the product, use it in the correct position.
- Adjust the angle so that light is not reflected on the screen.
- Place your arms perpendicular to your sides and allow your arms to be level with the back of the hand.
- Keep your elbow at 90 degrees.
- Keep your knees at greater than 90 degrees, and keep your heels firmly on the floor. Keep your arms lower than your heart.

Introduction

Package Contents

Note

Please make sure the following items are included with your monitor.

If any items are missing, contact your dealer.

Contact a local dealer to buy optional items.

Unpacking

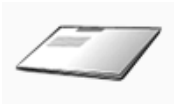
Without stand

Monitor

With stand

Monitor

Manuals



Quick Setup Guide

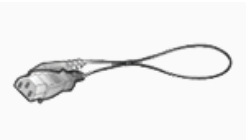
Warranty Card

(Not available in all locations)

User's Guide

Cables

D-Sub Cable



Power Cord

Stereo Cable

Others

Remote Control

Batteries (AAA X 2)

(Not available in all locations)

Cleaning Cloth

Cable holding ring

Stand Body

Stand Base

Note

Cleaning Cloth is only provided for highly polished black products as a product feature.

Note

The Wall Mount of this model is only supported as below.

- WMT1900T for 20" ~ 22"

- WMB2400T for 24" ~ 25.5"

If you want to purchase this Wall Mount, contact an authorized dealer.

Sold separately

DVI Cable

HDMI Cable

Headphones

USB Cable

TV Antenna Cable

(Coaxial Cable)

Component(P_R, P_B, Y) Cable

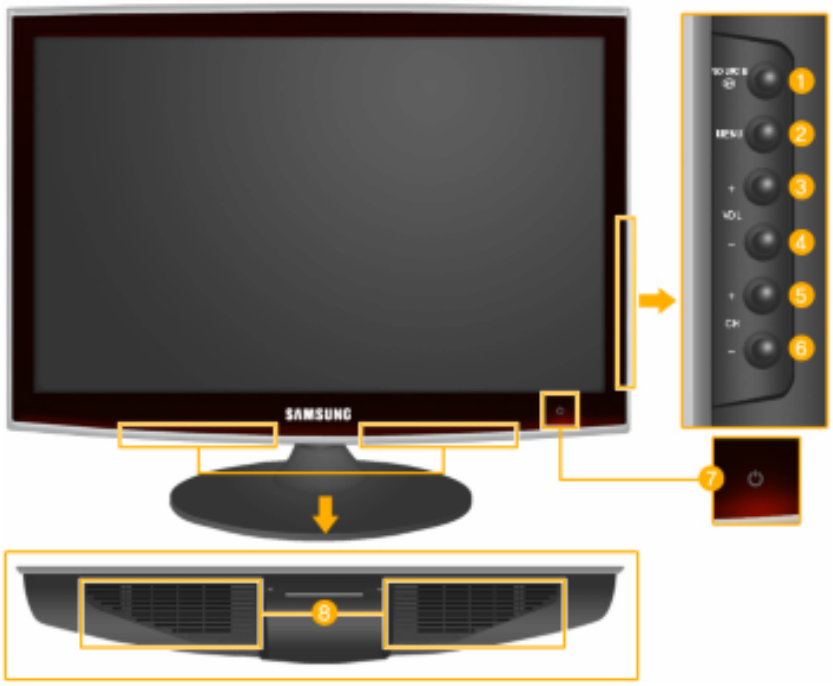
Sold separately

Audio cable

Digital audio optic output cable

Your Monitor

Front



1 SOURCE

Activates a highlighted menu item.

Push the 'SOURCE', button to change the input signal source.

Changing the source is only allowed for external devices connected to the product at the time.

To switch Screen modes:

[PC] → [TV] → [Ext.] → [DVI] → [Component] → [HDMI1] → [HDMI2]

2 *MENU*

Use this button to open the on-screen menu and to exit from the on-screen menu or to close the screen adjustment menu.

3,4 *- VOL +*

Moves from one menu item to another horizontally or adjusts selected menu values. Adjusts the audio volume.

5,6 *- CH +*

Moves from one menu item to another vertically or adjusts selected menu values. Press to change the channel.

7 *Power button [ ]*

Use this button for turning the product on and off.

Note

The button to the right of the monitor are touch-sensitive buttons.

Touch a button lightly with your finger.

Power indicator

This light is lit when operating normally, and blinks once when your adjustments are saved.

Note

See PowerSaver described in the manual for further information regarding power saving functions. For energy conservation, turn your monitor OFF when it is not needed or when leaving it unattended for long periods.

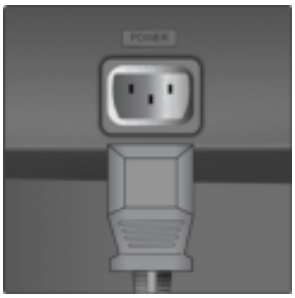
8 *Speaker*

Rear

Note

The configuration at the back of the product may vary from product to product.

1 *POWER*



POWER

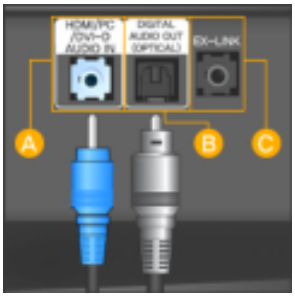
Connect the power cord for your monitor to the *POWER* port on the back of the product.

2 *PC*

PC

Connect the *PC* terminal at the back of your monitor to your computer.

3 *HDMI/DVI-D AUDIO IN / DIGITAL AUDIO OUT(OPTICAL) / EX-LINK*



A *HDMI/PC/DVI-D AUDIO IN*

Connect the *[HDMI/PC/DVI-D AUDIO IN]* terminal at the back of your product to your computer's sound card.

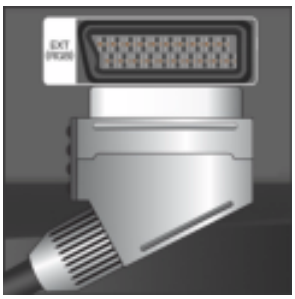
B *DIGITAL AUDIO OUT(OPTICAL)*

Connect the *[DIGITAL AUDIO OUT(OPTICAL)]* terminal of your product to the digital sound output or standard sound output terminal of the DVD home theater (or amplifier) using a digital audio optical output cable.

C *EX-LINK*

This is a reserved terminal used for servicing.

4 *EXT(RGB)*



Connect the EXT(RGB) port of the monitor to the DVD Player using a SCART jack.

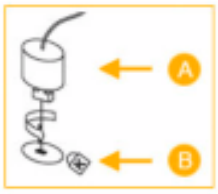
As for EXT(RGB) port of the monitor, it makes TV or Video signal input and output.

5 *DVI-D*

DVI-D

Connect the DVI cable to the *DVI-D* port on the back of your product.

6 *Kensington Lock*



The Kensington Lock is a device used to physically fix the system when using it in a public place. The locking device has to be purchased separately. The appearance and locking method may differ from the illustration depending on the manufacturer. Refer to the manual provided with the Kensington Lock for proper use. The locking device has to be purchased separately.

Note

The location of the Kensington Lock may be different depending on its model.

Using the Anti-Theft Kensington Lock

1. Insert the locking device into the Kensington slot on the Monitor (B) and turn it in the locking direction (A).
2. Connect the Kensington Lock cable.
3. Fix the Kensington Lock to a desk or a heavy stationary object.

7 *HDMI IN 1*

HDMI IN 1

Connect the [HDMI IN 1] terminal at the back of your monitor to the HDMI terminal of your digital output device using a HDMI cable.

8 *COMPONENT IN*

A *R - AUDIO - L*

Connect the port of the DVD, VCR (DVD / DTV Set-Top Box) to the *[R - AUDIO - L]* port of the product.

B *P_R, P_B, Y*

Connect the VIDEO OUT port of the DVD / DTV Set-Top Box to the *[P_R, P_B, Y]* input ports using a component video cable (P_R, P_B, Y).

9 *ANT IN*

Connect the CATV cable or TV antenna cable to the "ANT IN" port on the rear side of the product. Make sure to use a TV antenna cable (sold separately) as the antenna cable.

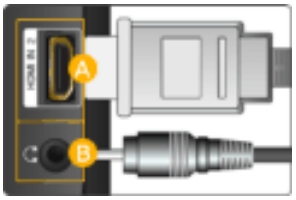
10 *COMMON INTERFACE*

This contains information on CAM inserted in the CI slot and displays it.

The Application Info inserting is about the CI CARD.

You can install the CAM anytime whether the TV is ON or OFF.

10 *HDMI IN 2 /*



A *HDMI IN 2*

Connect the [HDMI IN 2] terminal at the back of your product to the HDMI terminal of your digital output device using a HDMI cable.

B

Connect your headphones to the Headphone connection terminal.

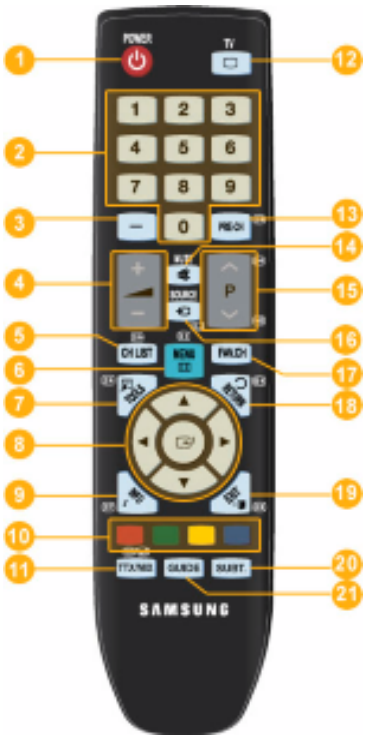
Note

See Connecting to PC for further information regarding cable connections.

Cable holding ring

- Fix the cables using the holding ring, as shown in the figure.

Remote Control



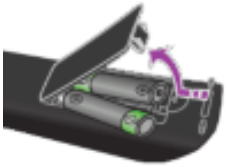
1. POWER
2. Number Buttons
3. ENTER
4. − +
5. CH LIST
6. MENU
7. TOOLS
8. ▲▼◀▶ Up-Down Left-Right buttons
   ENTER
9. INFO
10. COLOUR BUTTONS
11. TTX/MIX
12. TV
13. PRE-CH
14. MUTE
15. ∨ P ∧
16. SOURCE
17. FAV.CH
18. RETURN
19. EXIT
20. SUBTITLE
21. GUIDE

1. POWER	Turns the product On/Off.
2. Number buttons	Press to change the channel.

3. ENTER	Activates a highlighted menu item.
4. − +	Adjusts the audio volume.
5. CH LIST	It displays "**Channel List**" on the screen.
6. MENU	Opens the on-screen menu and exits from the menu or closes the adjustment menu.
7. TOOLS	Use to quickly select frequently used functions.
8. ▲▼◀▶ Up-Down Left-Right buttons	Moves from one menu item to another horizontally, vertically or adjusts selected menu values.
9. INFO	Current picture information is displayed on the upper left corner of the screen.
10. COLOR BUTTON	Press to add or delete channels and to store channels to the favorite channel list in the "**Channel List**" menu.
11. TTX/MIX	TV channels provide written information services via tele-text. - Teletext Buttons For more information > TTX / MIX
12. TV	Selects the TV mode directly.
13. PRE-CH	This button is used to return to the immediately previous channel.
14. MUTE	Adjusts the audio volume.
15. ∨ P ∧	In TV mode, selects TV channels.
16. SOURCE	Press the button to change the input signal SOURCE. Changing the SOURCE is only allowed for external devices that are connected to the monitor at the time.
17. FAV.CH	Press to switch to your favourites channels.
18. RETURN	Returns to the previous menu.
19. EXIT	Exits from the menu screen.
20. SUBTITLE	Digital subtitle display
21. GUIDE	Electronic Program Guide (EPG) display.

Installing Batteries in the Remote Control

1. Lift the cover at the back of the remote control upward as shown in the figure.



2. Install two AAA size batteries.

Note

Make sure to match the +and - ends of the batteries with the diagram inside the compartment.

3. Close the cover.

Note

Remove the batteries and store them in a cool, dry place if you won‘t be using the remote control for a long time.

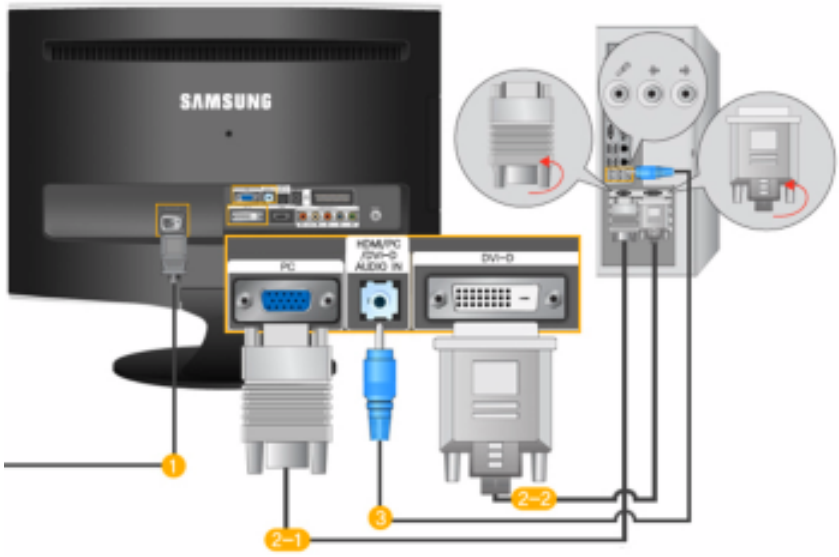
If the remote control doesn‘t work, check the following :

- Is the TV power on?
- Are the plus and minus ends of the batteries reversed?
- Are the batteries drained?
- Is there a power outage or is the power cord unplugged?
- Is there a special fluorescent light or neon sign nearby?

Connections

Connecting to PC

Connecting to a Computer



1 Connect the power cord for your monitor to the POWER port on the back of the monitor.

Plug the power cord for the monitor into a nearby outlet.

2 Use a connection appropriate for your computer.

2-1 Using the D-sub (Analog) connector on the video card.

- Connect the signal cable to the [PC] port on the back of your monitor.

[PC]

2-2 Using the DVI (Digital) connector on the video card.

- Connect the DVI Cable to the [DVI-D] Port on the back of your Monitor.

[DVI-D]

3 Connect the [HDMI / PC / DVI-D AUDIO IN] port on the rear side of the monitor to the sound card of the PC.

Note

- You may enjoy clear and quality sound from the computer sound card using the monitor speakers. (You don't need to install any separate speakers for your computer.)
- You may get a blank screen depending on the type of video card you are using, if you connect simultaneously both the D-sub and DVI cables to one computer.

- If you connect properly your monitor using the DVI connector but get a blank or fuzzy screen, check to see if the monitor status is set to analogue. Press 'SOURCE [⏎]' button to have the monitor double-check the input signal source.

Connecting an Antenna

Note

You may view television programs on the monitor if it is connected to an antenna or CATV cable without installing any separate TV reception hardware or software on your computer.

1. Connect the CATV cable or TV antenna cable to the "ANT IN" port on the rear side of the monitor.

   Make sure to use a TV antenna cable (sold separately) as the antenna cable.

2. Turn on the monitor.

Note

Is weak signal causing poor reception?

Purchase and install a signal amplifier for better reception.

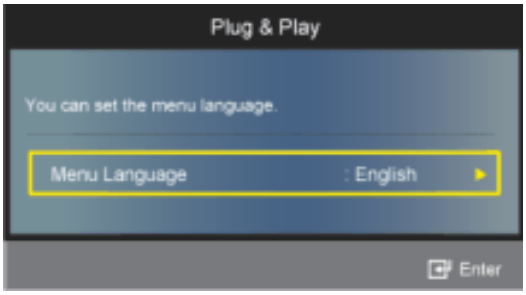
Plug & Play Feature

When the TV is initially powered on, basic settings proceed automatically and subsequently.

1. Press the POWER button on the remote control.

Note

You can also use the POWER button on the TV.



2.The message *You can set the menu Language.* is displayed.

3. Select the appropriate language by pressing the ▲ or ▼ button. Press the ENTER button to confirm your choice

4. Press the ◄ or ► button to select **Store Demo** or **Home Use**, then the ENTER button.

Note

We recommend setting the TV to **Home Use** mode for the best picture in your home environment.

Store Demo mode is only intended for use in retail environments.

If the unit is accidentally set to **Store Demo** mode and you want to return to **Home Use** (Standard): Press the volume button on the TV. When the volume OSD is displayed, press and hold the MENU button on the TV for 5 seconds

5. Press the ENTER button. Select the appropriate country by pressing the ▲ or ▼ button. Press the ENTER button to confirm your choice.

6. Press the ▲ or ▼ button to select **Air** or **Cable**, then press the ENTER button.

- **Air** : **Air** antenna signal.
- **Cable** : **Cable** antenna signal.

7. Press the ▲ or ▼ button to select the channel source to memorize. Press the ENTER button to select **Start**.

Note

When setting the antenna source to **Cable**, a step appears allowing you to set a value for the digital channel search. For more information, refer to **Channel** → **Auto Store**.

- **Digital & Analogue** : Digital and Analogue channels.
- **Digital** : Digital channels.
- **Analogue** : Analogue channels.

The channel search will start and end automatically.

Press the ENTER button at any time to interrupt the memorization process.

After all the available channels are stored, the message set the **Clock Mode** is displayed.

8. Press the ENTER button. Press the ▲ or ▼ button to select **Auto**, then Press the ENTER button.

Note

If you select **Manual**, **Set current date and time** is displayed.

If you have received a digital signal, the time will be set automatically. If not, select **Manual** to set the clock.

9. The description for the connection method providing the best HD screen quality is displayed. Check the description and press the ENTER button.

10. The message “**Enjoy your TV.**” is displayed. When you have finished, press the ENTER button.

Connecting to other devices

Note

- This monitor allows the user to connect it to such input devices as a DVD player, a VCR or camcorder or a DTV or TV without disconnecting the PC.
- The configuration at the back of the monitor may vary from product to product.

Connecting a HDMI cable

Note

You can connect digital output devices to your monitor.

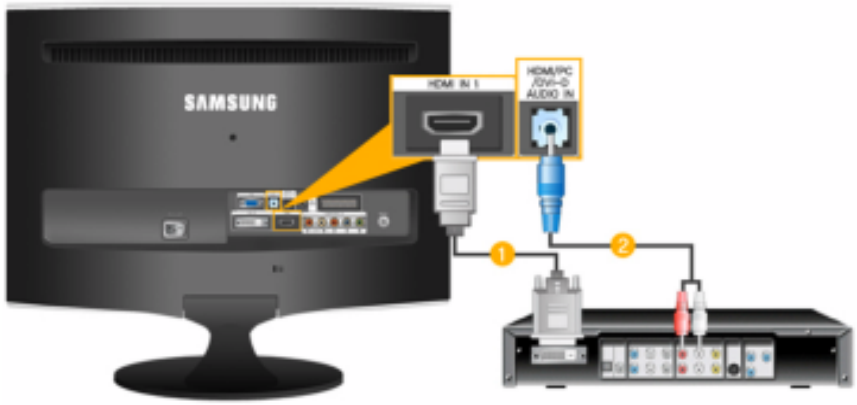
You can enjoy better screen and sound quality.

1. Connecting Using a HDMI Cable

   a. Input devices such as digital DVD are connected to the *HDMI IN* terminal of the monitor using the HDMI cable. When all the connections are completed, connect the power cords for the monitor and DVD(or the device connected to the digital output terminal).

      Select HDMI using the '*SOURCE* [⏎] button.

2. Connecting Using a DVI to HDMI Cable



1 Connect the DVI output terminal of a digital output device to the [HDMI IN] terminal of the monitor using a DVI to HDMI cable.

2 Connect the red and white jacks of an RCA to stereo (for PC) cable to the same colored audio output terminals of the digital output device, and connect the opposite jack to the *[HDMI/PC/DVI-D AUDIO IN]* terminal of the monitor.

3. When all the connections are completed, connect the power cords for the monitor and DVD (or the device connected to the digital output terminal).

4. Select "HDMI" using the 'SOURCE [⏎]' button.

Note

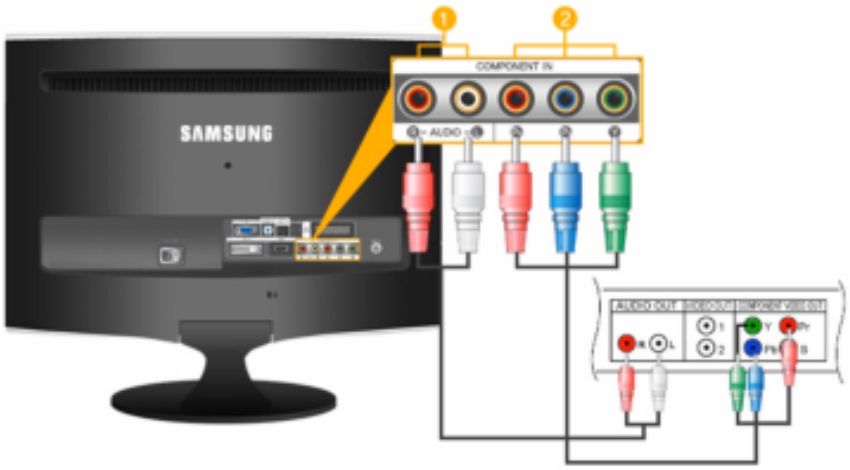
If you just connect using the DVI to HDMI cable without connecting to the sound source, you cannot hear sound.

Connecting the audio output terminal of a digital device to the *[R-AUDIO-L]* of *[COMPONENT IN]* of the monitor using an audio cable will not give you sound. Make sure to connect to the *[HDMI / PC/DVI-D AUDIO IN]* terminal of the monitor.

Connecting a Component cable

Note

Connect to the DVD / DTV Set Top Box input if the device has a [COMPONENT IN] connector. You can watch Component simply by hooking up the Component with the monitor as long as the power is on.



1 Connect the port of the DVD, VCR (DVD / DTV Set-Top Box) to the *[R-AUDIO-L]* port of the monitor.

2 Connect the VIDEO OUT port of the DVD / DTV Set-Top Box to the *[P_R, P_B, Y]* input ports using a component video cable (P_R, P_B,Y).

Note

Select "Component" using the 'SOURCE [⏎]'

If you connect the P_R, P_B, and Y component cables to the incorrect terminals, the screen will be displayed in red or blue.

For single-family houses, install an UHF antenna to receive digital broadcasting.

Connecting a Scart cable

Note

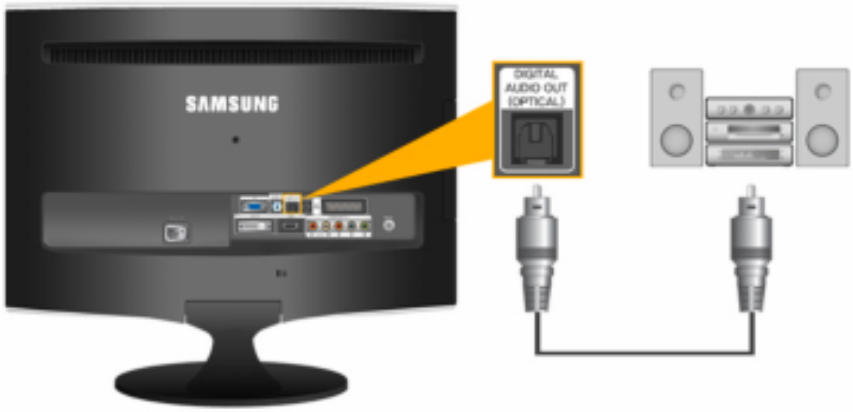
Connect to the DVD Devices input if the device has a EXT (RGB) jack. You can watch DVD simply by hooking up the DVD player with the monitor as long as the power is on.

1. Connect the EXT (RGB) port of the monitor to the DVD Player using a SCART jack.
2. When a Scart device is connected to your monitor, the Source automatically changes to **Ext.**

Connecting to Amplifier

Note

You can connect the digital sound input (optical) or standard sound input terminal of your amplifier to your monitor using the correct cable.



1. Connect the *[DIGITAL AUDIO OUT (OPTICAL)]* terminal of your monitor to the digital sound input terminal of your digital amplifier using an optical cable.
2. Set the Internal Mute On in the Sound menu using the MENU button.
3. Adjust the sound volume using the Volume button of your amplifier.
4. If the connections are set up, power up your monitor and amplifier.

Note

- If no sound is emitted from the monitor, you need to use an amplifier.
- For information on how to connect a speaker and amplifier, refer to the respective user manuals provided by their manufacturers.

Connecting COMMON INTERFACE

Note

You can install the CAM anytime whether the TV is ON or OFF.

Purchase the CI CAM module by visiting your nearest dealer or by phone.

1. Insert the CI CARD into the CAM in the direction of the arrow until it fits.
2. Insert the CAM with the CI CARD installed into the common interface slot.

   (Insert the CAM in the direction of the arrow, right up to the end so that it is parallel with the slot.)
3. Check if you can see a picture on a scrambled signal channel.

Connecting Headphone

Note

You may connect your headphones to the monitor.

1. Connect your headphones to the Headphone connection terminal.

Using the Stand

Monitor Assembly

Monitor and Bottom

Tilt angle

You can adjust the tilt angle within a range of -1° forward to 21° backward for the most comfortable viewing angle.

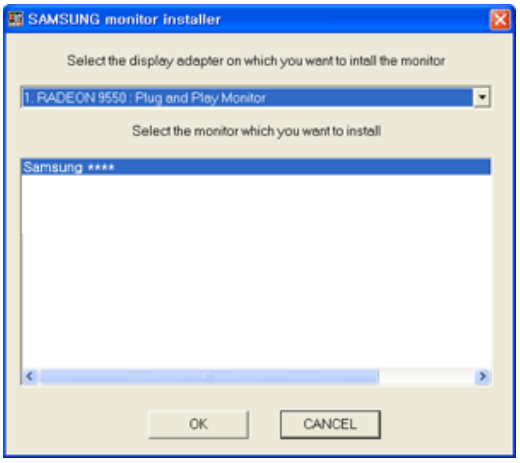
Using the Software

Monitor Driver

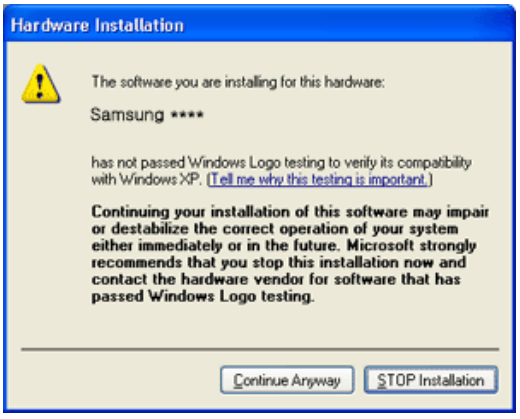
> **Note**
>
> When prompted by the operating system for the monitor driver, insert the CD-ROM included with this monitor. Driver installation is slightly different from one operating system to another. Follow the directions appropriate for the operating system you have.
>
> Prepare a blank disk and download the driver program file at the Internet web site shown here.
> **Internet web site :**
>
> http://www.samsung.com/ (Worldwide)

Installing the Monitor Driver (Automatic)

1. Insert CD into the CD-ROM drive.
2. Click "Windows".
3. Choose your monitor model in the model list, then click the "OK" button.


SAMSUNG monitor installer
Select the display adapter on which you want to intall the monitor
1. RADEON 9550 : Plug and Play Monitor
Select the monitor which you want to install
Samsung ****
OK
CANCEL

4. If you can see following message window, then click the "Continue Anyway" button. Then click "OK" button (Microsoft® Windows® XP/2000 Operating System).


Hardware Installation
The software you are installing for this hardware:
Samsung ****
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

Note

This monitor driver is under certifying MS logo, and this installation doesn't damage your system.

The certified driver will be posted on Samsung Monitor homepage.

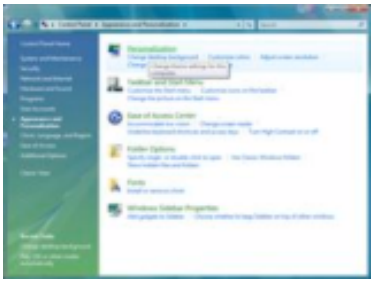
http://www.samsung.com/

Installing the Monitor Driver (Manual)

Microsoft® Windows Vista™, Operating System

1. Insert your Manual CD into your CD-ROM drive.
2. Click (Start) and "Control Panel". Then, double-click on "Appearance and Personalization".

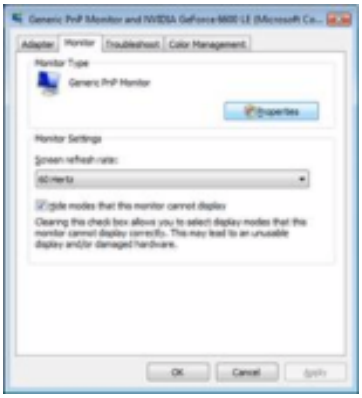
3. Click "Personalization" and then "Display Settings".

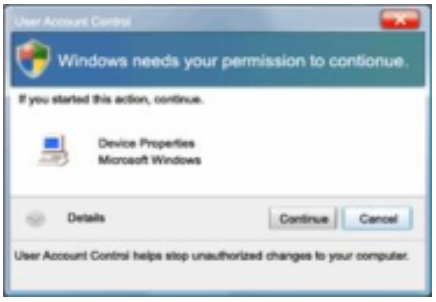


4. Click "Advanced Settings...".

5. Click "Properties" in the "Monitor" tab. If the "Properties" button is deactivated, it means the configuration for your monitor is completed. The monitor can be used as is.

If the message "Windows needs..." is displayed, as shown in the figure below, click "Continue".



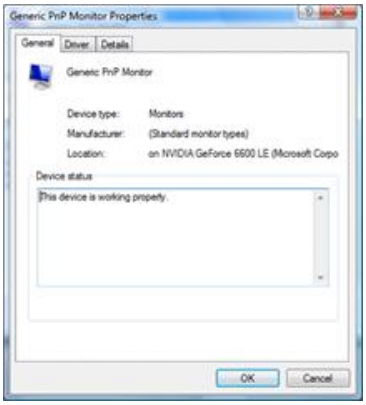


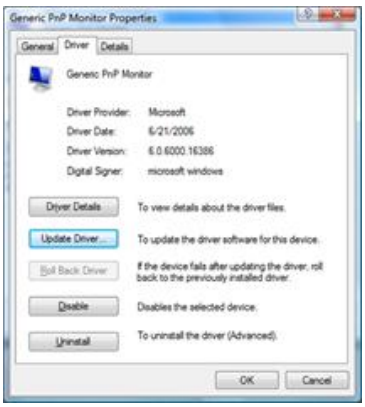
Note

This monitor driver is under certifying MS logo, and this installation doesn't damage your system.

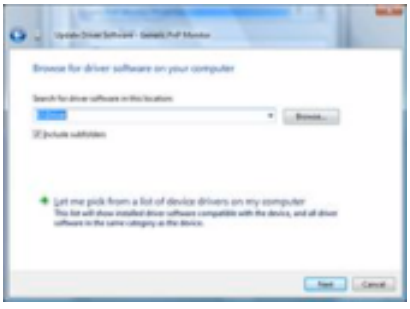
The certified driver will be posted on Samsung Monitor homepage.

6. Click "Update Driver..." in the "Driver" tab.

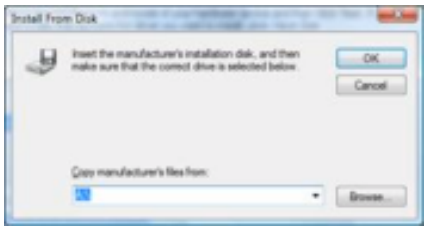




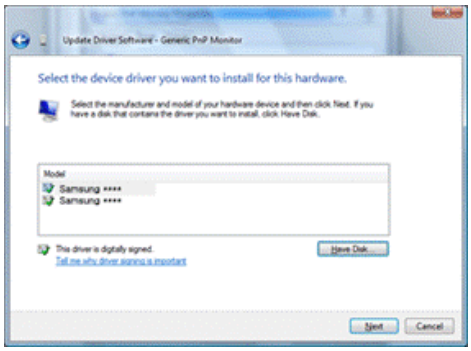
7. Check the "Browse my computer for driver software" checkbox and click "Let me pick from a list of device drivers on my computer".



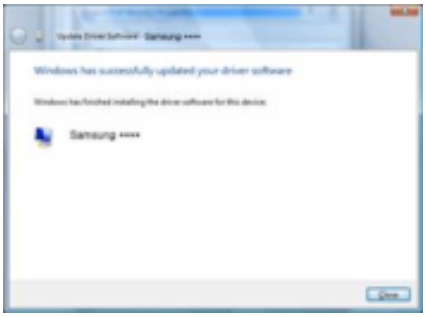
8. Click "Have Disk...” and select the folder (for example, D:\Drive) where the driver setup file is located, and click "OK".

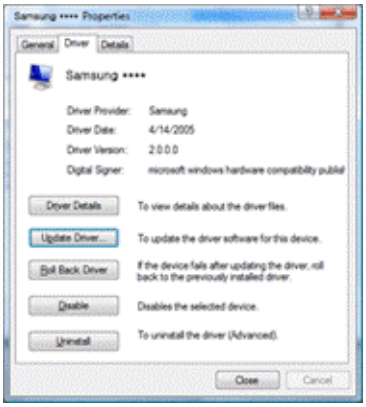


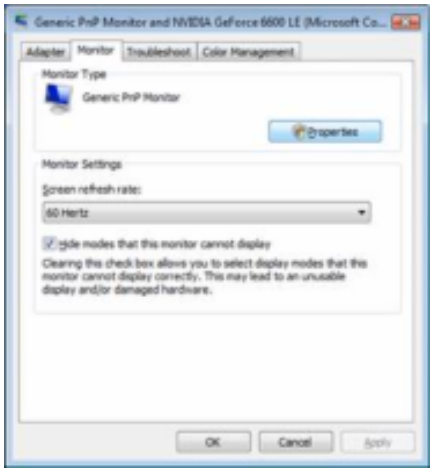
9. Select the model that matches your monitor from the list of monitor models on the screen, and click "Next".



10. Click "Close" → "Close" → "OK" → "OK" on the following screens displayed in sequence.

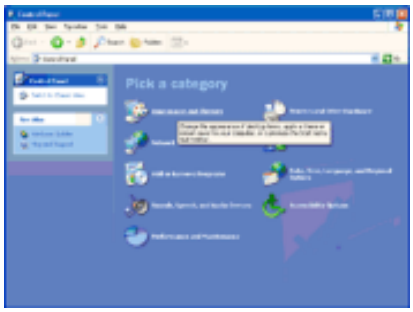




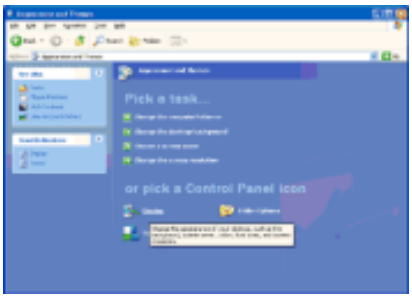
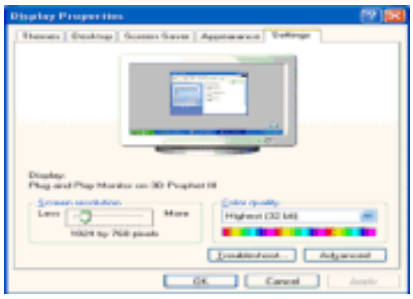


Microsoft® Windows® XP Operating System

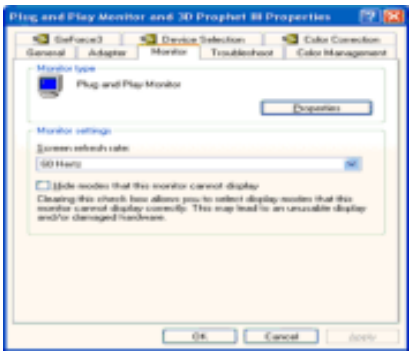
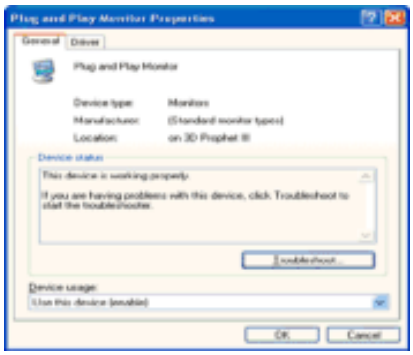
1. Insert CD into the CD-ROM drive.
2. Click "Start" → "Control Panel" then click the "Appearance and Themes" icon.



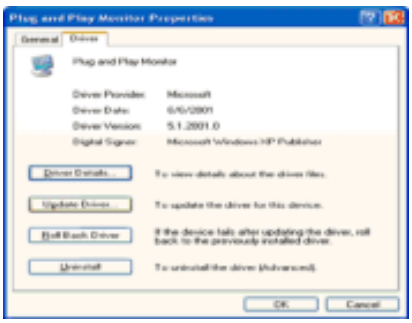
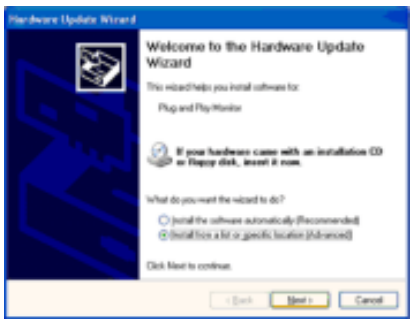
3. Click "Display" icon and choose the "Settings" tab then click "Advanced...".

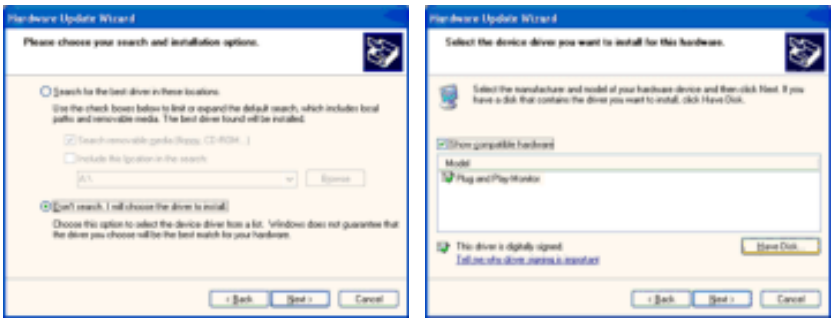
4. Click the "Properties" button on the "Monitor" tab and select "Driver" tab.

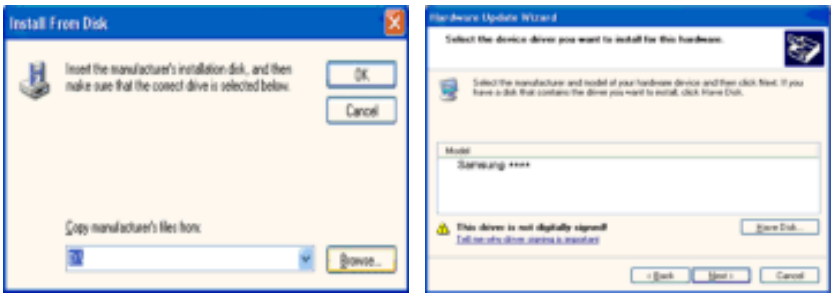
5. Click "Update Driver..." and select "Install from a list or..." then click "Next" button.

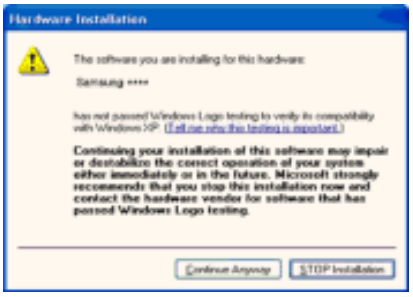
6. Select "Don't search, I will..." then click "Next" and then click "Have disk".



7. Click the "Browse" button then choose A:(D:\Driver) and choose your monitor model in the model list and click the "Next" button.



8. If you can see following message window, then click the "Continue Anyway" button. Then click "OK" button.



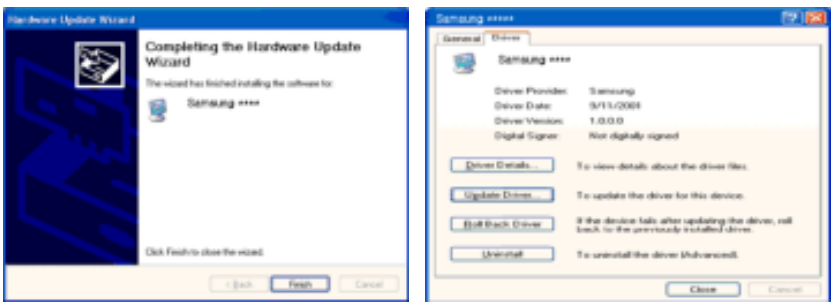
Note

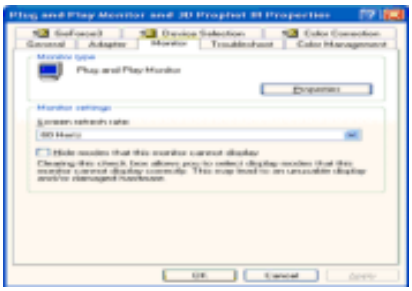
This monitor driver is under certifying MS logo, and this installation doesn't damage your system.

The certified driver will be posted on Samsung Monitor homepage.

http://www.samsung.com/

9. Click the "Close" button then click "OK" button continually.





10. Monitor driver installation is completed.

Microsoft® Windows® 2000 Operating System

When you can see "Digital Signature Not Found" on your monitor, follow these steps.

1. Choose "OK" button on the "Insert disk" window.
2. Click the "Browse" button on the "File Needed" window.
3. Choose A:(D:\Driver) then click the "Open" button and then click "OK" button.

How to install

1. Click "Start", "Setting", "Control Panel".
2. Double click the "Display" icon.
3. Select the "Settings" tab and click "Advanced Properties" button.
4. Choose "Monitor".

   Case1 : If the "Properties" button is inactive, it means your monitor is properly configured. Please stop installation

   Case2 : If the "Properties" button is active, click the "Properties" button then follow next steps continually.
5. Click "Driver" and then click on "Update Driver..." then click on the "Next" button.
6. Choose "Display a list of the known drivers for this device so that I can choose a specific driver" then click "Next" and then click "Have disk".
7. Click the "Browse" button then choose A:(D:\Driver).
8. Click the "Open" button, then click "OK" button.
9. Choose your monitor model and click the "Next" button then click "Next" button.
10. Click the "Finish" button then the "Close" button.

    If you can see the "Digital Signature Not Found" window then click the "Yes" button. And click the "Finish" button then the "Close" button.

Microsoft® Windows® Millennium Operating System

1. Click "Start", "Setting", "Control Panel".
2. Double click the "Display" icon.
3. Select the "Settings" tab and click "Advanced Properties" button.

4. Select the "Monitor" tab.
5. Click the "Change" button in the "Monitor Type" area.
6. Choose "Specify the location of the driver".
7. Choose "Display a list of all the driver in a specific location..." then click "Next" button.
8. Click the "Have Disk" button.
9. Specify A:\(D:\driver) then click "OK" button.
10. Select "Show all devices" and choose the monitor that corresponds to the one you connected to your computer and click "OK".
11. Continue choosing "Close" button and "OK" button until you close the Display Properties dialogue box.

Microsoft® Windows® NT Operating System

1. Click "Start", "Settings", "Control Panel", and then double-click "Display" icon.
2. In Display Registration Information window, click Settings Tab and then click "All Display Modes".
3. Select a mode that you wish to use (Resolution, Number of colors and Vertical frequency) and then click "OK".
4. Click "Apply" button if you see the screen working normally after clicking "Test". If the screen is not normal, change to a different mode (lower mode of resolution, colors or frequency).

Note

If there is no Mode at All Display Modes, select the level of resolution and vertical frequency by referring to the Preset Timing Modes in the user guide.

Linux Operating System

To execute X-Window, you need to make the X86Config file, which is a type of system setting file.

1. Press "Enter" at the first and the second screen after executing the X86Config file.
2. The third screen is for setting your mouse.
3. Set a mouse for your computer.
4. The next screen is for selecting a keyboard.
5. Set a Keyboard for your computer.
6. The next screen is for setting your monitor.
7. First of all, set a horizontal frequency for your monitor. (You can enter the frequency directly.)
8. Set a vertical frequency for your monitor. (You can enter the frequency directly.)
9. Enter the model name of your monitor. This information will not affect the actual execution of X-Window.

10. You have finished setting up your monitor. Execute X-Window after setting other requested hardware.

Natural Color

Natural Color Software Program

One of the recent problems in using a computer is that the color of the images printed out by a printer or other images scanned by a scanner or a digital camera are not the same as those shown on the monitor. The Natural Color S/W is the very solution for this problem. It is a color administration system developed by Samsung Electronics in association with Korea Electronics & Telecommunications Research Institute (ETRI). This system is available only for Samsung monitors and makes the color of the images on the monitor the same as the printed or scanned images. For more information, refer to Help (F1) in the software program.

How to install the Natural Color software

Insert the CD included with the Samsung monitor into the CD-ROM Drive. Then, the initial screen of the program Natural Color will be executed. Click Natural Color on the initial screen to install the Natural Color software.

To install the program manually, insert the CD included with the Samsung monitor into the CD-ROM Drive, click the [Start] button of Windows and then select [Run...]. Enter D:\color \NCProSetup.exe and then press the [Enter] key. (If the drive where the CD is inserted is not D:\, enter the applicable drive.)

How to delete the Natural Color software program

Select "Setting/Control Panel" on the "Start" menu and then double-click "Add/Delete a program". Select Natural Color from the list and then click the "Add/Delete" button.

MultiScreen

Installation

1. Insert the installation CD into the CD-ROM drive.
2. Click the MultiScreen installation file.
   Note

   If the popup window to install the software for the main screen is not displayed, proceed with the installation using the MultiScreen executable file on the CD.
3. When the Installation Shield Wizard window appears, click "Next".
4. Select "I agree to the terms of the license agreement" to accept the terms of use.
5. Choose a folder to install the MultiScreen, program.
6. Click "Install".
7. The "Installation Status" window appears.
8. Click "Finish".
9. When the installation is complete, the Multiscreen executable icon appears on your desktop. Double-click the icon to start the program.

Multiscreen execution icon may not appear depending on specification of computer system or monitor. If that happens, press F5 Key.

Installation Problems

The installation of MultiScreen can be affected by such factors as the video card, motherboard and the network environment.

System Requirements

OS

- Windows 2000
- Windows XP Home Edition
- Windows XP Professional
- Windows Vista™

It is recommended using MultiScreen in Windows® 2000 or later.

Hardware

- 32 MB Memory above
- 60 MB Hard disk space above

Uninstall

The Multiscreen program can be removed only by using the "Add or Remove Programs" option of the Windows® Control Panel.

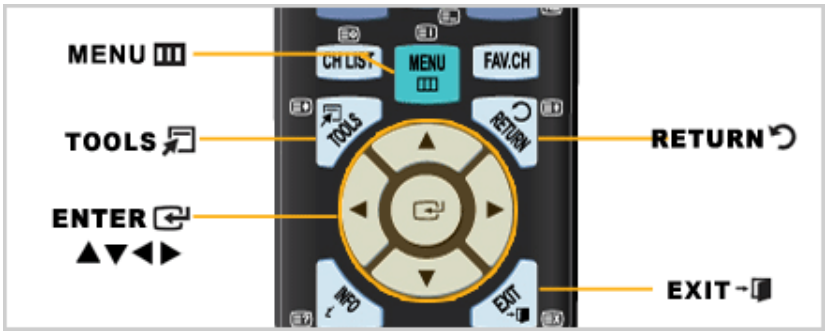
Perform the following steps remove Multiscreen.

Select "Setting/Control Panel" on the "Start" menu and then double-click "Add/Delete a program".

Select Multiscreen from the list and then click the "Add/Delete" button.

Adjusting the LCD Display

Viewing the Menus



Button	Description
MENU	Opens the on-screen menu and exits from the menu or closes the adjustment menu.
▲▼◀▶	Up-Down Left-Right buttons - Moves from one menu item to another horizontally, vertically or adjusts selected menu values.
ENTER	Activates a highlighted menu item.
RETURN	Returns to the previous menu.
EXIT	Exits from the menu screen.
TOOLS	Use to quickly select frequently used functions.

Picture

Note

The default setting may be different depending on the selected Input Mode (input signal source selected in External Input List) and the selected resolution.

Input Mode : PC or DVI

MagicBright

MagicBright is a feature providing optimum viewing environment depending on the contents of the image you are watching. Currently five different modes are available: **Entertain**, **Internet**, **Text**, **Dynamic Contrast** and **Custom**. Each mode has its own pre-configured brightness value.

Press the *TOOLS* button to display the **Tools** menu. You can also set the **MagicBright** by selecting **Tools** → **MagicBright**.

- **Entertain**

  High Brightness

  For watching motion pictures such as a DVD or VCD

- **Internet**

  For working with a mixture of images such as texts and graphics.

- **Text**

  For documents or works involving heavy text.

- **Dynamic Contrast**

  Dynamic Contrast automatically detects the distribution of the visual signal and adjusts to create an optimum contrast.

- **Custom**

  Although the values are carefully chosen by our engineers, the pre-configured values may not be comfortable to your eyes depending on your taste.

  If this is the case, adjust the Brightness and Contrast by using the OSD menu.

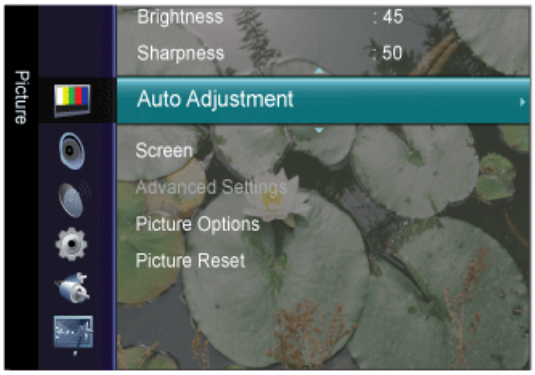
Contrast / Brightness / Sharpness

(Not available when **MagicBright** is **Dynamic Contrast**.)

You can use the on-screen menus to change the contrast and brightness according to personal preference.

- **Contrast** : Adjust the Contrast.
- **Brightness** : Adjust the Brightness.
- **Sharpness** : Adjust the Sharpness.

Auto Adjustment



The values of **Fine**, **Coarse**, **Position** are adjusted automatically.

By changing the resolution in the control panel, auto function is performed.

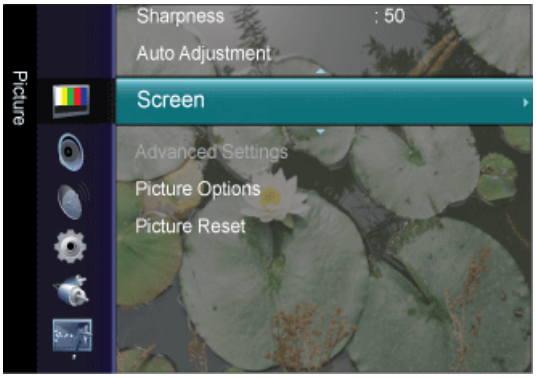
The direct button on the remote control is the 'AUTO' button.

Press the *TOOLS* button to display the **Tools** menu. You can also set the **Auto Adjustment** by selecting **Tools** → **Auto Adjustment**.

(Available in **PC** Mode Only)

Screen

(Available in PC mode only)



- **Coarse**

  Removes noise such as vertical stripes.

  Coarse adjustment may move the screen image area. You may relocate it to the center using the horizontal control menu.

- **Fine**

  Removes noise such as horizontal stripes.

  If the noise persists even after **Fine** tuning, repeat it after adjusting the frequency (clock speed).

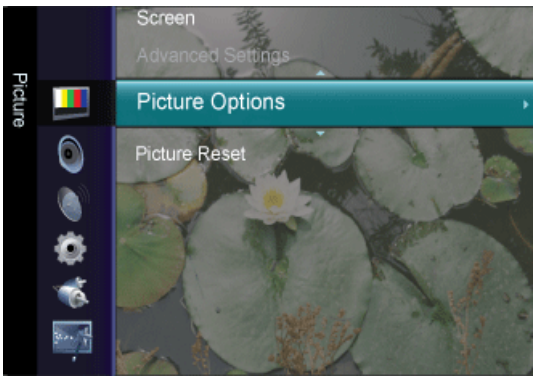
- **PC Position**

Adjusts the screen location horizontally and vertically.

- **Image Reset**

  Image parameters are replaced with the factory default values.

Picture Options



- **Colour Tone**

  The tone of the color can be changed.

  Cool / **Normal** / **Warm** / **Custom**

- **R-Gain** , **G-Gain** , **B-Gain**

  Adjusts the individual **R, G, B** color controls.

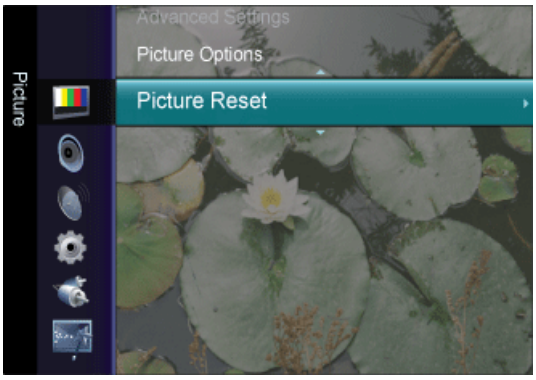
  (Available in PC / DVI mode only)

- **Size**

  You can switch the Size.

  Wide / **4:3**

Picture Reset



Picture parameters are replaced with the factory default values.

- **Reset Picture Mode** / **Cancel**

Input Mode : TV ,DTV ,Ext. ,Component or HDMI

Mode

The Monitor has three automatic picture settings ("**Dynamic**", "**Standard**", and "**Movie**") that are preset at the factory.

You can activate either **Dynamic**, **Standard**, or **Movie**.

You can select the type of picture which best corresponds to your viewing requirements.

Press the *TOOLS* button to display the **Tools** menu. You can also set the **Picture Mode** by selecting **Tools** → **Picture Mode**.

- **Dynamic**

  Selects the picture for high-definition in a bright room.

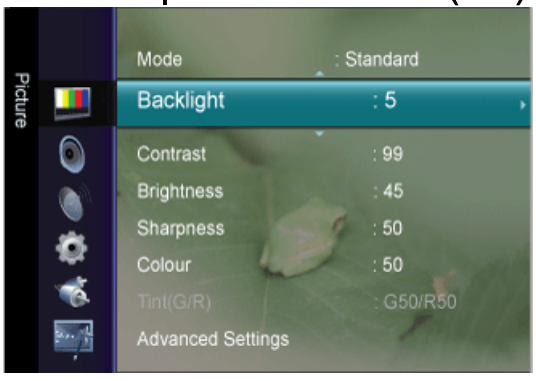
- **Standard**

  Selects the picture for optimum display in a normal environment.

- **Movie**

  Selects the picture for viewing movies in a dark room.

Backlight / Contrast / Brightness / Sharpness / Colour / Tint(G/R)



Your television has several setting options that allow you to control the picture quality.

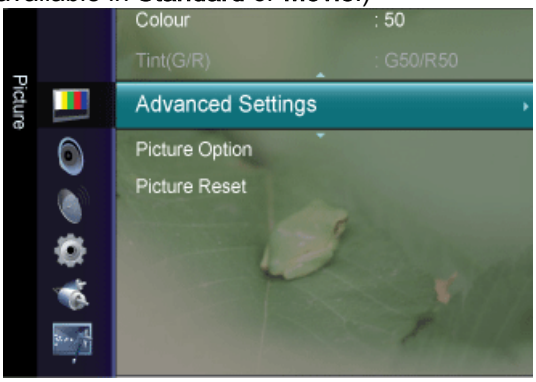
- **Backlight** : Adjusts the brightness of LCD back light.
- **Contrast** : Adjusts the contrast level of the picture.

- **Brightness** : Adjusts the brightness level of the picture.
- **Sharpness** : Adjusts the edge definition of the picture.
- **Colour** : Adjusts colour saturation of the picture.
- **Tint(G/R)** : Adjusts the colour tint of the picture. (It is activated when the signal is NTSC.)

Advanced Settings

Samsung's new TVs allow you to make even more precise picture settings than previous models. See below to adjust detailed picture settings.

(**Advanced Settings** is available in **Standard** or **Movie**.)



Black Tone

You can select the black level on the screen to adjust the screen depth.

- **Off** / **Dark** / **Darker** / **Darkest**

Dynamic Contrast

You can adjust the screen contrast so that the optimal contrast is provided.

- **Off** / **Low** / **Medium** / **High**

Gamma

You can adjust the Primary Colour (Red, Green, Blue) Intensity.

Colour Space

Colour Space is a colour matrix composed of red, green and blue colours. Select your favourite **Colour Space** to experience the most natural colour.

- **Auto** : Auto Colour Space automatically adjusts to the most natural colour tone based on programme sources.
- **Native** : **Native Colour Space** offers deep and rich colour tone

White Balance

You can adjust the colour temperature for more natural picture colours.

- **R-Offset** : Adjusts the red colour darkness.
- **G-Offset** : Adjusts the green colour darkness.
- **B-Offset** : Adjusts the blue colour darkness.
- **R-Gain** : Adjusts the red colour brightness.
- **G-Gain** : Adjusts the green colour brightness.
- **B-Gain** : Adjusts the blue colour brightness.
- **Reset** : The previously adjusted white balance will be reset to the factory defaults.

Flesh Tone

You can emphasize the pink **Flesh Tone** in the picture.

Note

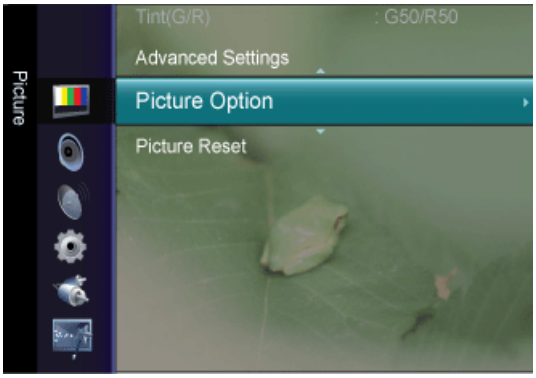
Changing the adjustment value will refresh the adjusted screen.

Edge Enhancement

You can emphasize object boundaries in the picture.

- **Off** / **On**

Picture Option



Colour Tone

The tone of the color can be changed.

- **Cool** / **Normal** / **Warm1** / **Warm2**

Note

"**Warm1**" or "**Warm2**" is only activated when the picture mode is "**Movie**".

Settings can be adjusted and stored for each external device you have connected to an input of the TV.

Size

You can switch the Size.

Press the *TOOLS* button to display the **Tools** menu. You can also set the size by selecting **Tools** → **Picture Size**.

- **Auto Wide** - Automatically adjusts the picture size to the "**16:9**" aspect ratio.
- **Wide** - A full screen is displayed regardless of the screen aspect ratio of the input signals.
- **16:9** - Adjusts the picture size to **16:9** appropriate for DVDs or wide broadcasting.
- **Wide Zoom** - Magnify the size of the picture more than **4:3**.
- **Zoom** - Magnifies the **16:9** wide picture (in the vertical direction) to fit the screen size.
- **4:3** - Sets the picture to **4:3** normal mode.
- **Screen Fit** - Use the function to see the full image without any cut off when HDMI (720P / 1080i / 1080p), Component (1080i / 1080p) signals are input.

Note

Wide Zoom : Press the ▶ button to Select Position, then press the ENTER button. Press the ▲ or ▼ button to move the picture up / down. Then press the ENTER button.

Zoom : Press the ▶ button to Select Position, then press the ENTER button. Press the ▲ or ▼ button to move the picture up and down. Then press the ENTER button. Press the ▶ button to Select Size, then press the ENTER button. Press the ▲ or ▼ button to magnify or reduce the picture size in the vertical direction. Then press the ENTER button.

After selecting **Screen Fit** in HDMI (1080i / 1080p) or Component (1080i / 1080p) mode: Select Position by pressing the ◀ or ▶ button. Use the ▲ or ▼ , ◀ or ▶ button to move the picture.

- **Reset** : Press the ◀ or ▶ button to select **Reset**, then press the ENTER button. You can initialize the setting.

Depending on the input source, the picture size options may vary.

Settings can be adjusted and stored for each external device you have connected to an input of the TV.

Temporary image retention may occur when viewing a static image on the set for more than two hours.

Screen Mode

Only when setting the **picture size** to **Auto Wide** can the user determine the **Screen mode**. Each individual European country requires a different picture size so this function is intended to help users to select it.

- **Wide** : A full screen is displayed regardless of the screen aspect ratio of the input signals
- **16:9**: Sets the picture to 16:9 wide mode.
- **Wide Zoom** : Magnify the size of the picture more than 4:3.
- **Zoom** : Magnify the size of the picture vertically.
- **4:3** : Sets the picture to 4:3 normal mode.

Note

Picture Size is available in **Auto Wide** mode

This function is not available in **PC** or **Component**,**Ext.**, **HDMI** mode.

Digital NR

Digital Noise Reduction.

If the broadcast signal received by your TV is weak, you can activate the Digital Noise Reduction feature to help reduce any static and ghosting that may appear on the screen.

- **Off** : Turns the screen noise reduction function off.
- **Low** : Reduces screen noise at a low level.
- **Medium** : Reduces screen noise at a medium level.
- **High** : Reduces screen noise at a high level.
- **Auto** :Automatically recognizes and reduces screen noise.

Note

When the signal is weak, select one of the other options until the best picture is displayed.

HDMI Black Level

You can directly select the black level on the screen to adjust the screen depth.

- **Normal** / **Low**

Note

This function is active only when the external input connects to HDMI (RGB signals).

Film Mode

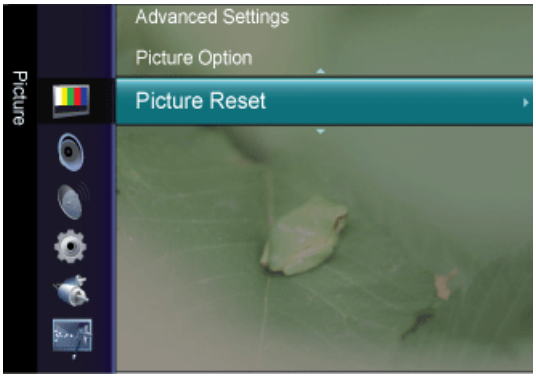
The TV can be set to automatically sense and process film signals from all sources and adjust the picture for optimum qualityd.

- **Off** / **Auto**

Note

Film Mode is supported in TV, AV, COMPONENT(480i / 1080i) and HDMI(480i / 1080i).

Picture Reset



Resets all picture settings to the default values.

- **Reset Picture Mode** : Current picture values return to default settings.
- **Cancel**

Note

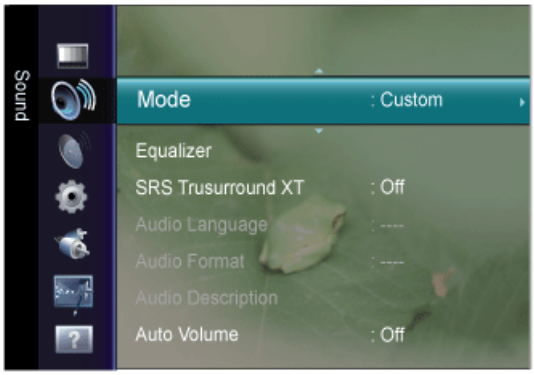
Select a picture mode to be reset. The reset is performed for each picture mode.

Sound

Note

The default setting may be different depending on the selected Input Mode (input signal source selected in External Input List) and the selected resolution.

Mode



You can select a sound mode to suit your personal preferences.

Press the *TOOLS* button to display the **Tools** menu. You can also configure the sound mode by selecting **Tools** → **Sound Mode**

- **Standard** : Selects the normal sound mode.
- **Music** : Emphasizes music over voices.
- **Movie** : Provides the best sound for movies.
- **Clear Voice** : Emphasizes voice over other sounds.
- **Custom** : Recalls your customized sound settings.

Equalizer

You can adjust the left and right sound balance and the low or high volume as you want.

The sound settings can be adjusted to suit your personal preference.

Mode

Selects the sound mode among the predefined settings.

Balance

Adjusts the balance between the right and left speaker.

100Hz / 300Hz / 1kHz / 3kHz / 10kHz

To adjust the level of different bandwidth frequencies.

Reset

Resets the equalizer settings to the default values.

SRS TruSurround XT

SRS TruSurround XT is a patented SRS technology that solves the problem of playing 5.1 multichannel content over two speakers.

TruSurround delivers a compelling, virtual surround sound experience through any two-speaker playback system, including internal television speakers. It is fully compatible with all multichannel formats.

Press the *TOOLS* button to display the **Tools** menu. You can also configure the sound mode by selecting **Tools** → **SRS TruSurround XT**

- **Off** / **On**

Audio Language

You can change the default value for audio languages. Displays the language information for the incoming stream.

Note

While viewing a digital channel, this function can be selected.

You can only select the language among the actual languages being broadcast.

Audio Format

When sound is emitted from both the main speaker and the audio receiver, a sound echo may occur due to the decoding speed difference between the main speaker and the audio receiver. In this case, use the TV Speaker function.

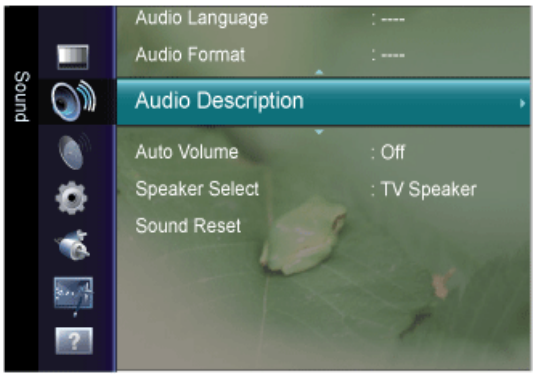
- **MPEG**
- **Dolby Digital**

Note

While viewing a digital channel, this function can be selected.

The **Audio Format** appears according to the broadcasting signal.

Audio Description



This is an auxiliary audio function that provides an additional audio track for visually challenged persons. This function handles the Audio Stream for the AD (**Audio Description**), when it is sent along with the Main audio from the broadcaster. Users can turn the **Audio Description** On or Off and control the volume.

Audio Description

Turn the audio description function on or off.

Volume

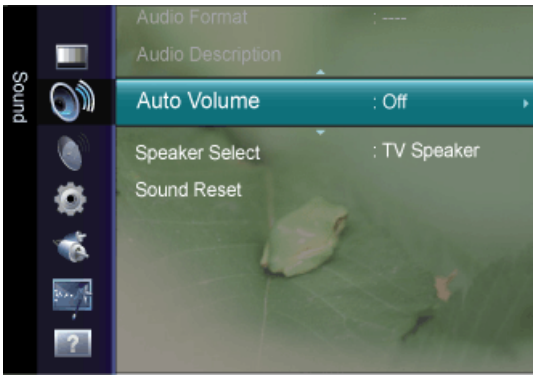
You can adjust the audio description volume.

Note

Volume is active when **Audio Description** is set to On.

While viewing a Digital channel, this function can be selected.

Auto Volume

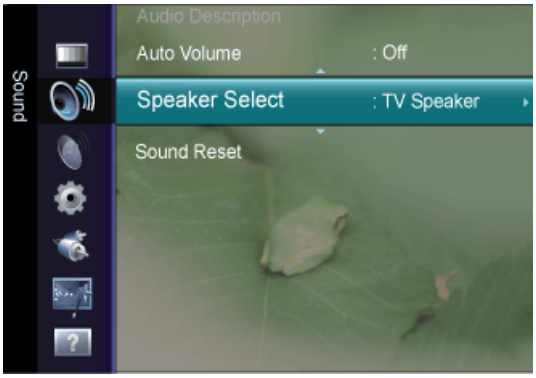


Each broadcasting station has its own signal conditions, and so it is not easy to adjust the volume every time the channel is changed.

This feature lets you automatically adjust the volume of the desired channel by lowering the sound output when the modulation signal is high or by raising the sound output when the modulation signal is low.

- **Off** / **On**

Speaker Select



When you watch TV with it connecting to a Home theater, turn the **TV speakers** off so you can listen to sound from the Home theater's (external) speakers.

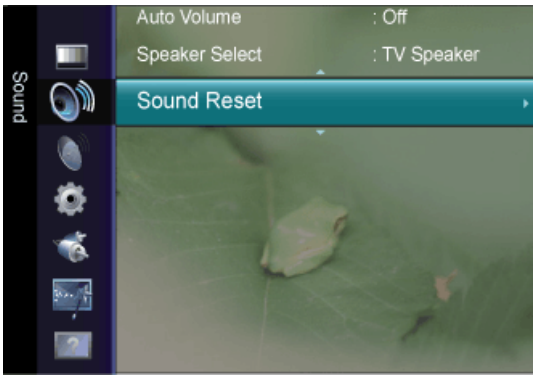
- **External Speaker** : Used to listen to the sound of the external (Home Theater) speakers.
- **TV Speaker** : Used to listen to the sound of the **TV Speakers**.

Note

If you select **External Speaker** in the **Speaker Select** menu, the sound settings will be limited.

The volume buttons and MUTE buttons do not operate when the **Speaker Select** is set to **External Speaker**.

Sound Reset



You can restore the **Sound** settings to the factory defaults.

- **Reset All** / **Reset Sound Mode** /**Cancel**

Note

Reset Sound Mode: Current sound values return to default settings.

Selecting the Sound Mode

You can set the sound mode in the **Tools** menu. When you set to **Dual I II**, the current sound mode is displayed on the screen

	Audio Type	**Dual 1 / 2**	**Dual 1 / 2**
A2 Stereo	Mono	**MONO**	Automatic change

	Audio Type	Dual 1 / 2	Dual 1 / 2
NICAM Stereo	Stereo	STEREO ⟷ MONO	Automatic change
	Dual	DUAL 1 ⟷ DUAL 2	DUAL 1
	Mono	MONO	Automatic change
	Stereo	MONO ⟷ STEREO	Automatic change
	Dual	MONO ⟷ DUAL 1 ⟷ DUAL 2	DUAL 1

Note

If the stereo signal is weak and an automatic switching occurs, then switch to the mono.

This function is only activated in stereo sound signal. It is deactivated in mono sound signal.

This function is only available in TV mode.

Channel

Note

The default setting may be different depending on the selected Input Mode (input signal source selected in External Input List) and the selected resolution.

Country

Select the country in which the product is being used before you use the **Auto Store** feature. If you do not see your country in the list, select Others.

Analogue Channel

You can change the country for analogue channels.

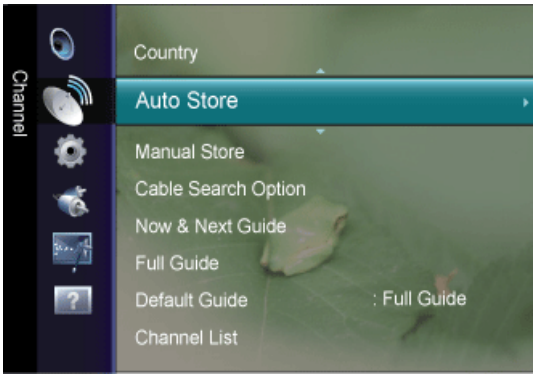
Digital Channel

You can change the country for digital channels.

Note

The PIN number input screen appears. Enter your 4 digit PIN number.

Auto Store



You can scan for the frequency ranges available to you (and availability depends on your country).

Automatically allocated programme numbers may not correspond to actual or desired programme numbers.

Note

If a channel is locked using the **Child Lock** function, the PIN input window appears.

Air / Cable

Antenna source to memorize.

- **Digital & Analogue** : Digital and Analogue channels.
- **Digital** : Digital channels.
- **Analogue** : Digital channels.

When selecting **Cable** → **Digital & Analogue** or **Cable** → **Digital** : Provide a value to scan for cable channels.

- **Search Mode** : **Full** / **Network** / **Quick**

Note

Scans for all channels with active broadcast stations and stores them in the TV`s memory.

Quick

- **Network ID** : Displays the network identification code.
- **Frequency** : Displays the frequency for the channel. (Differs in each country)
- **Modulation** : Displays available modulation values.
- **Symbol Rate** : Displays available symbol rates.

Manual Store

You can scan the frequency ranges available on your television in your area and store all the channels found manually.

Digital Channel

Manual store for digital channels.

- **Channel** : Set the Channel number using the ▲ , ▼ or number (0~9) buttons
- **Frequency** : Set the frequency using the number buttons.
- **Bandwidth** : Set the bandwidth using the ▲ , ▼ or number (0~9) buttons.

Note

Digital Channel is only available in DTV mode.

When it has finished, channels are updated in the channel list.

Analogue Channel

Manual store for analogue channel.

- **Programme** (**Programme** number to be assigned to a channel)

  Inputting the appropriate program number on the screen. Sets the programme number using the ▲ , ▼ or number (0~9) buttons

- **Colour System**

  Adjusts repeatedly until the colour is of the best quality. Sets the colour system value using the ▲ or ▼ button.

  (**Auto** / **PAL** / **SECAM** / **NTSC4.43**)

- **Sound System**

  Adjusts repeatedly until the sound is of the best quality. Sets the sound system value using the ▲ or ▼ button.

  (**BG** / **DK** / **I** / **L**)

- **Channel** (When you know the number of the channel to be stored)

You can store television channels, including those received via cable networks.

When storing channels manually, you can choose:

Whether or not to store each of the channels found. The Programme number of each stored channel which you wish to identify

- **C** (Air channel mode): You can select a channel by entering the assigned number to each air broadcasting station in this mode.

- **S** (Cable channel mode): You can select a channel by entering the assigned number for each cable channel in this mode.

- **Search** (When you do not know the channel numbers)

  Press the ▲ or ▼ button to start the search. The tuner scans the frequency range until the first channel or the channel that you selected is received on your screen.

- **Store** (When you store the channel and associated programme number)

  It's used to restore the number user inputs. Set to OK by pressing the ENTER ↵ button.

Cable Search Option

Using this function, you can manually add the channel range to be scanned by full search mode of the **Auto Store** function.

- **Freq.Start** : Set the start frequency (Differs in each country)
- **Freq.Stop** : Set the stop frequency (Differs in each country)
- **Modulation** : Displays available modulation values.
- **Symbol Rate** : Displays available symbol rates.

Now & Next Guide / Full Guide / Default Guide

The EPG (Electronic Programme Guide) information is provided by the broadcasters. Programme entries may appear blank or out of date as a result of the information broadcast on a given channel. The display will dynamically update as soon as new information becomes available

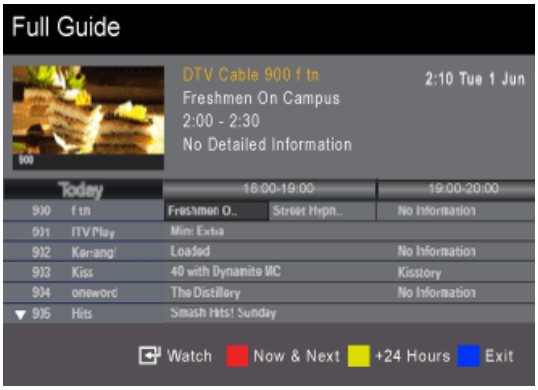
Note

You can also display the guide menu simply by pressing the GUIDE button. (To configure the **Default Guide**, refer to the descriptions.).

Now & Next Guide

For the six channels indicated in the left-hand column, displays the Current programme and the Next programme information.

Full Guide



Displays the programme information as time ordered One hour segments. Two hours of programme information is displayed which may be scrolled forwards or backwards in time.

To...	Then...
Watch a programme in the EPG list.	Select a programme by pressing the ▲, ▼, ◄, ► button. Press the ENTER button.
If the next programme is selected, it is scheduled with the clock icon displayed. If the ENTER button is pressed again, the scheduling is cancelled with the clock icon gone. For details about scheduling programmes, refer to the next page.	
View programme information	Select a programme of your choice by pressing the ▲, ▼, ◄, ► button. Press the INFO button when the programme of your choice is highlighted.

To...	Then...
Toggle between the **Now & Next Guide** or **Full Guide**	Press the red button repeatedly.
Scrolls backwards quickly (24 hours)	Press the green button repeatedly.
Scrolls forward quickly (24 hours)	Press the yellow button repeatedly.
Exit the guide	Press the EXIT button.

Note

The programme title is on the upper part of the screen center. Please click on *INFO* button for the detailed information. Channel Number, Running Time, Status Bar, Parental Level, Video Quality Information(HD/SD), Sound Modes, Subtitle or Teletext, Languages of Subtitle or Teletext, and brief summary of the highlighted programme are included on the detailed information.

"... " will be appeared if the summary is long.

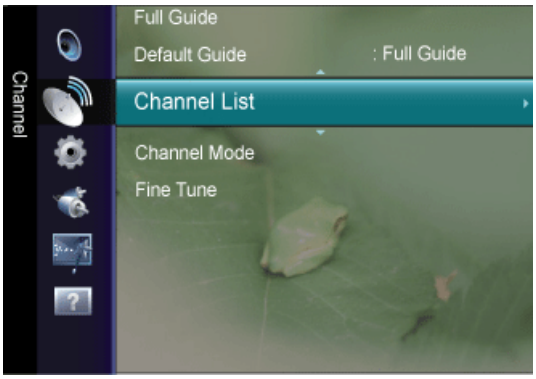
Six channels are displayed. To scroll between channels, move to a channel using the ▲ or ▼ button. To display page by page, use the P ∧ , or P ∨ button.

Default Guide

You can decide whether to display either the **Now & Next Guide** or the **Full Guide** when the *GUIDE* button on the remote control is pressed.

- **Now & Next** / **Full Guide**

Channel List

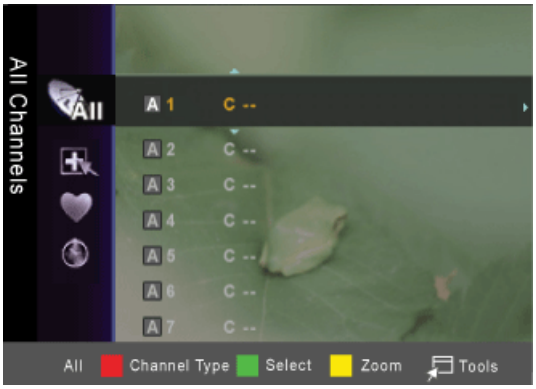


Using this menu, you can add / delete or set favourites channels and use the programme guide for digital broadcasts.

You can select these options by simply pressing the *CH LIST* button on the remote control.

All Channels

Shows all currently available channels.



Added Channels

Shows all added channels.

Favourites

Shows all favourite channels.

Note

To select the favourites channels you have set up, press the FAV.CH button on the remote control.

When it has finished, channels are updated in the channel list

Programmed

Shows all current reserved programmes.

Note

Select a channel in the All Channels, **Added Channels** or **Favourites** screen by pressing the ▲, ▼ buttons, and pressing the ENTER button. Then you can watch the selected channel.

Using the Colour buttons with the **Channel List**.

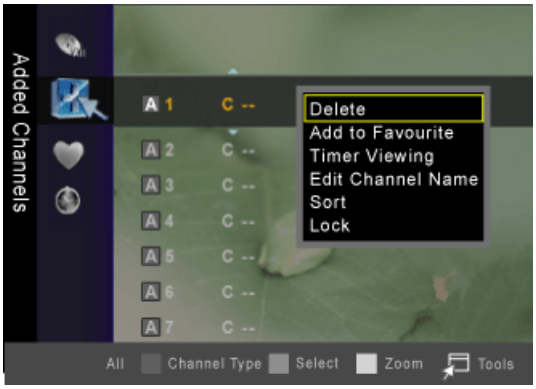
- Red (**Channel Type**) : Toggle between your TV, Radio, Data / Other and All.
- Green (**Zoom**) : Enlarges or shrinks a channel number.
- Yellow (**Select**) : Selects multiple channel lists. You can perform the add/delete or add to favourites/delete from favourites function for multiple channels at the same time. Select the required channels and press the yellow button to set all the selected channels at the same time. The ✓ mark appears to the left of the selected channels.
- *TOOLS* (**Tools**) : Displays the **Delete** (or **Add**), **Add to Favourite** (or **Delete from Favourite**), **Lock** (or **Unlock**), **Timer Viewing**, **Edit Channel Name**, **Edit Channel Number**, **Sort**, **Select All**, **Deselect All** or **Auto Store** menu. (The Options menus may differ depending on the situation.)

Channel Status Display Icons

- A :An Analogue channel.
- ✓ : A channel selected by pressing the yellow button.
- ♥ : A channel set as a **Favourite**.

- : A programme currently being broadcast.
- : A locked channel.
- : A reserved programme.

Channel List Option Menu (in All Channels / Added Channels / Favourites)



Add / Delete

You can delete or add a channel to display the channels you want.

Note

All deleted channels will be shown on **All Channels** menu.

A gray-coloured channel indicates the channel has been deleted.

The **Add** menu only appears for deleted channels.

You can also delete a channel to the **Added Channels** or **Favourites** menu in the same manner.

Add to Favourite / Delete from Favourite

You can set channels you watch frequently as favourites.

Press the *TOOLS* button to display the **Tools** menu. You can also set the add to (or delete from) **Favourite** by selecting **Tools** → **Add to Favourite** (or **Delete** from **Favourite**)

Note

The icon symbol will be displayed and the channel will be set as a favourite.

All favourite channels will be shown on **Favourites** menu.

Lock / Unlock

You can lock a channel so that the channel cannot be selected and viewed.

Note

This function is available only when the **Child Lock** is set to **On**.

The PIN number input screen appears. Enter your 4 digit PIN number.

The default PIN number of a new TV set is 0-0-0-0. You can change the PIN, by selecting **Change PIN** from the menu.

The Icon symbol will be displayed and the channel will be locked.

Timer Viewing

If you reserve a programme you want to watch, the channel is automatically switched to the reserved channel in the **Channel List**; even when you are watching another channel. To reserve a programme, set the current time first.

Note

Only memorized channels can be reserved.

You can set the channel, day, month, year, hour and minute directly by pressing the number buttons on the remote control.

Reserving a programme will be shown in the **Programmed** menu.

Digital Programme Guide and Viewing Reservation - When a digital channel is selected, and you press the ▶ button, the Programme Guide for the channel appears. You can reserve a programme according to the procedures described above.

Edit Channel Name (analogue channels only)

Channels can labelled so that their call letters appear whenever the channel is selected.

Note

The names of digital broadcasting channels are automatically assigned and cannot be labelled.

Edit Channel Number (digital channels only)

You can also edit the channel number by pressing the number buttons on the remote control.

Sort (analogue channels only)

This operation allows you to change the programme numbers of the stored channels.

This operation may be necessary after using the auto store.

Select All / Deselect All

Channels can labelled so that their call letters appear whenever the channel is selected.

- **Select All** : You can select all the channels in the channel list.
- **Deselect All** : You can deselect all the selected channels.

Note

You can only select **Deselect All** when there is a selected channel.

Auto Store

Note

For detailed procedures on setting up options, refer to the **Channel** Menu instructions.

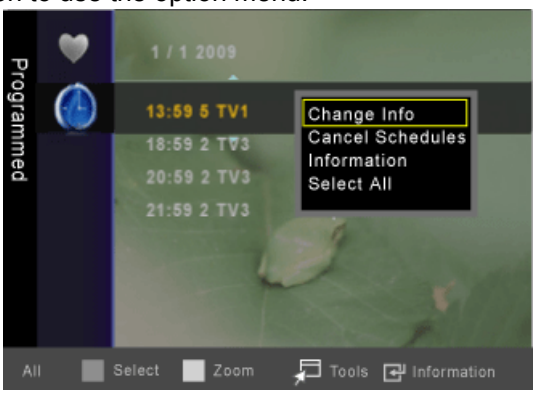
If a channel is locked using the **Child Lock** function, the PIN input window appears.

Channel List Option Menu (in Programmed)

You can view, modify or delete a reservation

Note

Press the *TOOLS* button to use the option menu.



Change Info

Select to change a viewing reservation.

Cancel Schedules

Select to cancel a viewing reservation.

Information

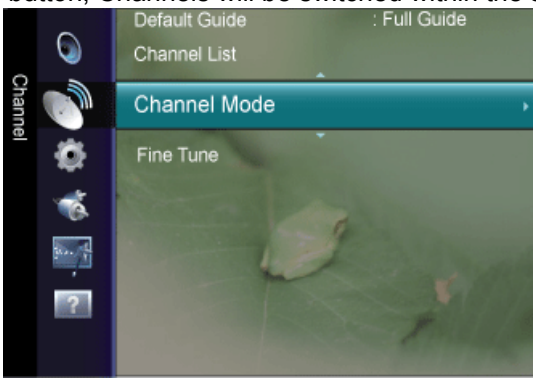
Select to view a viewing reservation. (You can also change the reservation information.)

Select All

Select all reserved programmes.

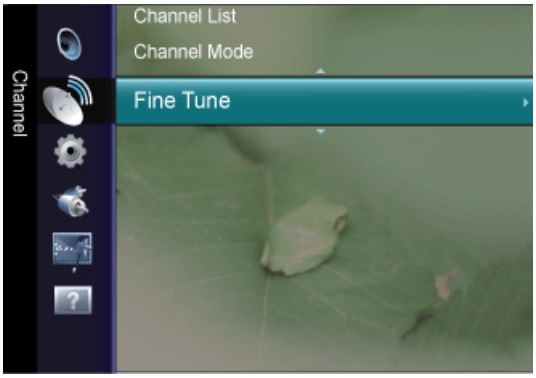
Channel Mode

When press the ∨ P ∧ button, Channels will be switched within the selected channel list.



- **Added Ch** : Channels will be switched within the memorized channel list.
- **Favourite Ch :** Channels will be switched within the favourite channel list.

Fine Tune



If the reception is clear, you do not have to fine tune the channel, as this is done automatically during the search and store operation. If the signal is weak or distorted, you may have to fine tune the channel manually.

Note

Fine tuned channels that have been saved are marked with an asterisk " * " on the right-hand side of the channel number in the channel banner.

To reset the fine-tuning, select **Reset** by pressing the ▲ or ▼ button and then press the ENTER button.

Only Analogue TV channels can be fine tuned.

Setup

Note

The default setting may be different depending on the selected Input Mode (input signal source selected in External Input List) and the selected resolution.

Plug & Play

When the TV is initially powered on, several basic settings proceed automatically and sub sequently. the following settings are available.

Language

You can set the menu language.

The language chosen affects only the language of the OSD.

Time

Clock

Setting the clock is necessary in order to use the various timer features of the TV.

The current time will appear every time you press the *INFO* button.

If you disconnect the power cord, you have to set the clock again.

Clock Mode

You can set up the current time manually or automatically.

- **Auto** : Set the current time automatically using the time from the digital broadcast.
- **Manual** : Set the current time to a manually specified time.

Note

Depending on the broadcast station and signal, the auto time may not be set correctly. If this occurs, set the time manually.

The antenna or cable must be connected in order to set the time automatically.

Clock Set

You can set the current time manually.

Note

This function is only available when **Clock Mode** is set to manual.

You can set the **day**, **month**, **year**,**hour** and **minute** directly by pressing the number buttons on the remote control.

Sleep Timer

Use to set the Monitor to be turned off automatically in certain minutes.

Press the *TOOLS* button to display the **Tools** menu. You can also set the sleep timer by selecting **Tools** → **Sleep Timer**.

- **Off**, **30 min**, **60 min**, **90 min**, **120 min**, **150 min**, **180 min**

Note

To cancel the **Sleep Timer** function, select **Off**.

Timer1 / Timer2 / Timer3

You can have the monitor turned on or off automatically at a specified time.

- **On time**

  Set to the hour, minute and “**activate**”/” **inactivate**”.

  (To activate timer with the setting you‘ve chosen, set to ‘**activate**’)

- **Off time**

  Set to the hour, minute and “**activate**”/” **inactivate**”.

  (To activate timer with the setting you‘ve chosen, set to ‘**activate**’)

- **Volume**

  Select the required volume level.

- **Antenna**

  Select ATV or DTV.

- **Channel**

  Select the desired channel.

- **Repeat**

  Select "**Once**", "**Everyday**", "**Mon~Fri**", "**Mon~Sat**" or "**Sat~Sun**" or **Manual**.

  When **Manual** is selected, press the ▶ button to select the desired day of the week.

  Press the ENTER button over the desired day and the ✓ mark will appear.

Note

You can set the hour, minute and channel by pressing the number buttons on the remote control.

Auto Power Off

- When you set the timer On, the television will eventually turn off, if no controls are operated for 3 hours after the TV was turned on by the timer. This function is only available in timer On mode and prevents overheating, which may occur if a TV is on for too long time

Game Mode

When connecting to a game console such as PlayStation™ or Xbox™, you can enjoy a more realistic gaming experience by selecting game menu.

- **Off** / **On**

Note

Restrictions on **Game Mode** (Caution)

- To disconnect the game console and connect another external device, set **Game Mode** to **Off** in the setup menu.
- If you display the TV menu in **Game Mode**, the screen shakes slightly.

Game Mode is not available in regular **TV** and **PC** mode.

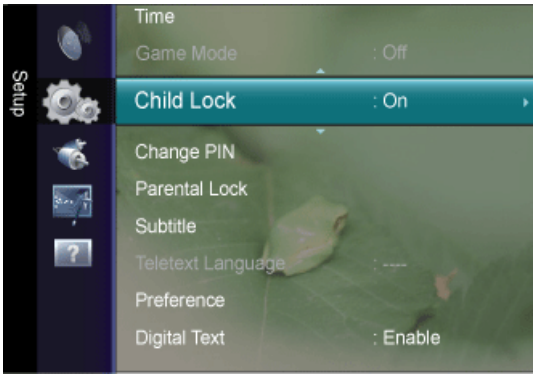
If the picture is poor when external device is connected to TV, check if **Game Mode** is **On**. Set **Game Mode** to **Off** and connect external devices.

If **Game Mode** is **On** :

- **Picture** mode is automatically changed to **Standard** and cannot be changed.
- **Sound** mode is automatically changed to **Custom** and cannot be changed. Adjust the sound using the equalizer.

The **Reset Sound Mode** is activated. Selecting the **Reset** function after setting the equalizer resets the equalizer settings to the factory defaults.

Child Lock



This feature allows you to prevent unauthorized users, such as children, from watching unsuitable programme by muting out video and audio.

- **Off** / **On**

Note

Before the setup screen appears, the PIN number input screen appears. Enter your 4 digit PIN number.

The default PIN number of a new TV set is 0-0-0-0. You can change the PIN by selecting **Change PIN** from the menu.

You can lock some channels in **Channel List.**

Child Lock is available only in **TV** mode.

Change PIN

You can change your personal ID number that is required to set up the TV.

Note

Before the setup screen appears, the PIN number input screen appears. Enter your 4digit PIN number.

The default PIN number of a new TV set is 0-0-0-0.

If you forget the PIN code, press the remote control buttons in the following sequence, which resets the PIN to 0-0-0-0: *POWER* (Off) → *MUTE* → 8 → 2 → 4 → *POWER* (On).

Parental Lock

This feature allows you to prevent unauthorized users, such as children, from watching unsuitable programme by a 4-digit PIN (Personal Identification Number) code that is defined by the user.

- **Allow All** : Press to unlock all TV ratings.
- **Block All** : Press to lock all TV ratings.

Note

Before the setup screen appears, the PIN number input screen appears. Enter your 4 digit PIN number.

The default PIN number of a new TV set is 0-0-0-0. You can change the PIN by selecting **Change PIN** from the menu.

When the parental ratings are set, the symbol is displayed.

Subtitle

You can activate and deactivate the subtitles. Use this menu to set the **Mode**.

Normal under the menu is the basic subtitle and **Hard of hearing** is the subtitle for a hearing-impaired person.

Subtitle

Switches subtitles **on** or **off**.

Mode

Sets the subtitle mode.

- **Normal** / **Hard of hearing**

Subtitle Language

Set the subtitle language.

Note

If the programme you are watching does not support the **Hard of hearing** function, **Normal** automatically activates even though **Hard of hearing** mode is selected.

English is the default in cases where the selected language is unavailable in the broadcast.

You can select these options simply by pressing the *SUBT.* button on the remote control.

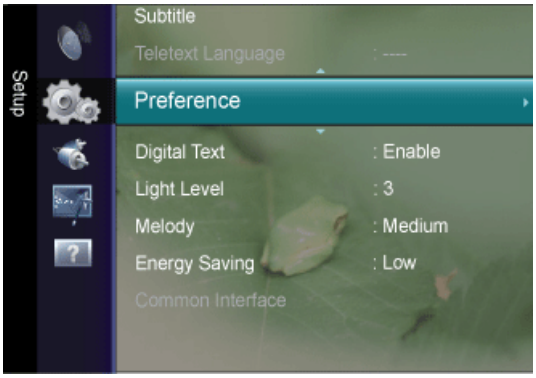
Teletext Language

You can set the **Teletext language** by selecting the language type.

Note

English is the default in cases where the selected language is unavailable in the broadcast.

Preference



Primary Audio Language / Secondary Audio Language / Primary Subtitle Language /Secondary Subti

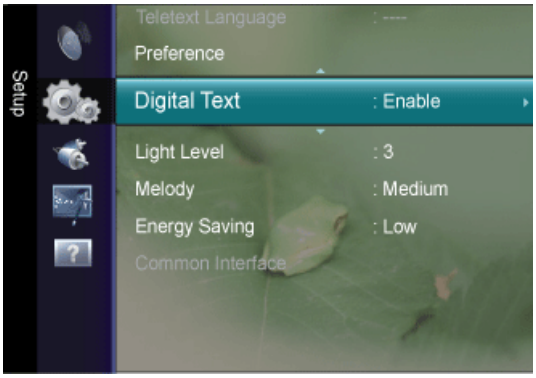
Using this feature, users can select one of the languages. The language selected here is the default when the user selects a channel.

If you change the language setting, the **Subtitle Language**, **Audio Language**, and the **Teletext Language** of the **Language** menu are automatically changed to the selected language.

The **Subtitle Language**, **Audio Language**, and the **Teletext Language** of the **Language** menu show a list of languages supported by the current channel and the selection is highlighted.

If you change this language setting, the new selection is only valid for the current channel. The changed setting does not change the setting of the **Primary Subtitle Language**, **Primary Audio Language**, or the **Primary Teletext Language** of the **Preference** menu.

Digital Text



If the programme is broadcast with digital text, this feature is enabled.

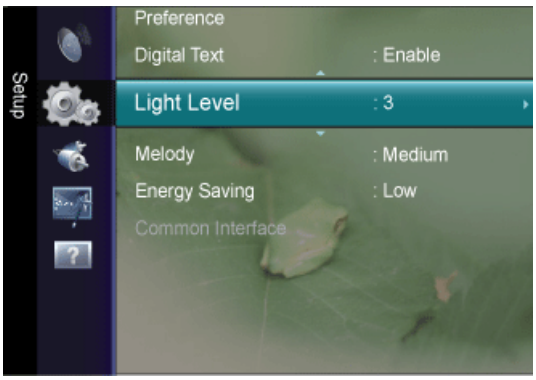
- **Disable** / **Enable** (UK only)

Note

MHEG (Multimedia and Hypermedia Information Coding Experts Group)

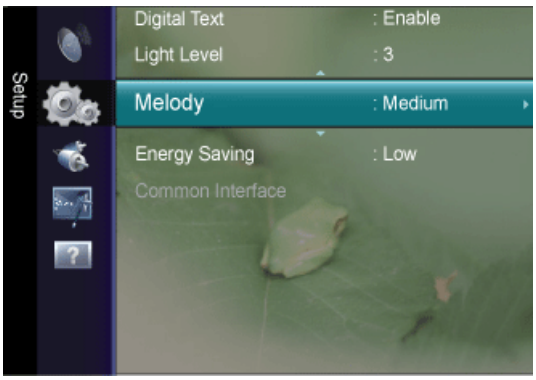
An International standard for data encoding systems used in multimedia and hypermedia. This is at a higher level than the MPEG system which includes data-linking hypermedia such as still images, character service, animation, graphic and video files as well as multimedia data. MHEG is user runtime interaction technology and is being applied to various fields including VOD (Video-On-Demand), ITV (Interactive TV), EC (Electronic Commerce), tele-education, tele-conferencing, digital libraries and network games.

Light Level



Light Level is to automatically detect distribution of inputted visual signal and adjust to create optimum brightness.

Melody



A melody sound can be set to come on when the monitor is powered On or Off.

- **Off** : Turns off the melody function.
- **Low** : Sets the melody volume to low.
- **Medium** : Sets the melody volume to medium.
- **High** : Sets the melody volume to high.

Note

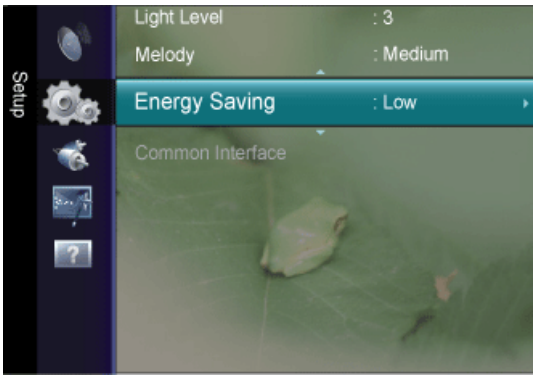
The **Melody** does not play

- When no sound is output from the TV because the *MUTE* button has been pressed.

- When no sound is output from the TV because the volume has been reduced to minimum with the volum (-) button.

- When the TV is turned off by **Sleep Timer** function.

Energy Saving

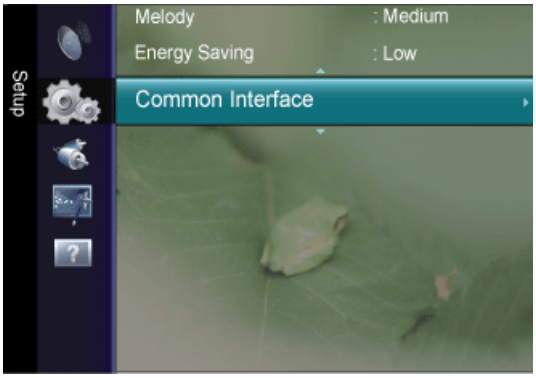


This feature adjusts the brightness of the TV in order to reduce power consumption. When watching TV at night, set the **Energy Saving** mode option to **High** to reduce eye fatigue as well as power consumption.

Press the *TOOLS* button to display the **Tools** menu. You can also set the **Energy Saving** option by selecting **Tools** → **Energy Saving**.

- **Off** : Turns off the energy saving function.
- **Low** : Sets the TV to low energy saving mode.
- **Medium** : Sets the TV to medium energy saving mode.
- **High** : Sets the TV to high energy saving mode.
- **Auto** : Automatically adjusts the brightness of the TV screen in accordance with the scenes.

Common Interface



CI Menu

This enables the user to select from the CAM-provided menu.

Select the **CI Menu** based on the menu PC Card.

Application Info.

This contains information on CAM inserted in the CI slot and displays it.

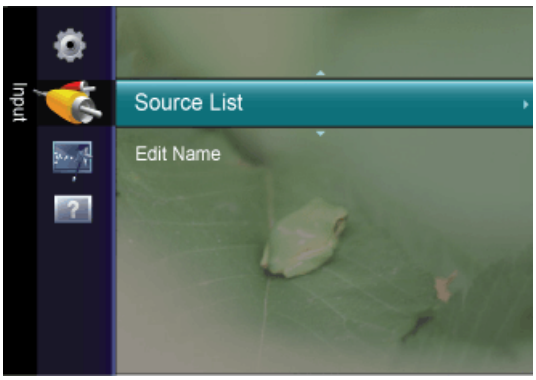
The Application Info inserting is about the CI CARD. You can install the CAM anytime whether the TV is ON or OFF.

Input

Note

The default setting may be different depending on the selected Input Mode (input signal source selected in External Input List) and the selected resolution.

Source List



Use to select PC, TV or other external input source connected to the product.Use to select the screen of your choice.

Press the *SOURCE* button on the remote control to view an external signal source.

PC / **TV** / **Ext.** / **DVI** / **Component** / **HDMI1** / **HDMI2**

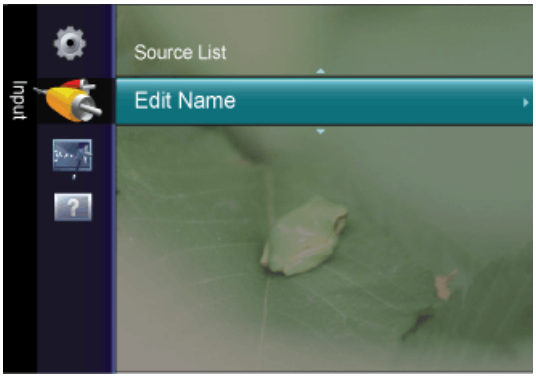
Note

You can choose only those external devices that are connected to the TV. In the **Source List**, connected inputs will be highlighted and sorted to the top. Inputs that are not connected will be sorted to the bottom.

Using the colour buttons on the remote with the **Source List**.

- Red (**Refresh**) : Refreshes the connecting external devices.
- *TOOLS* (**Tools**) : Displays the **Edit Name** and Information menus.

Edit Name



Name the input device connected to the input jacks to make your input source selection easier.

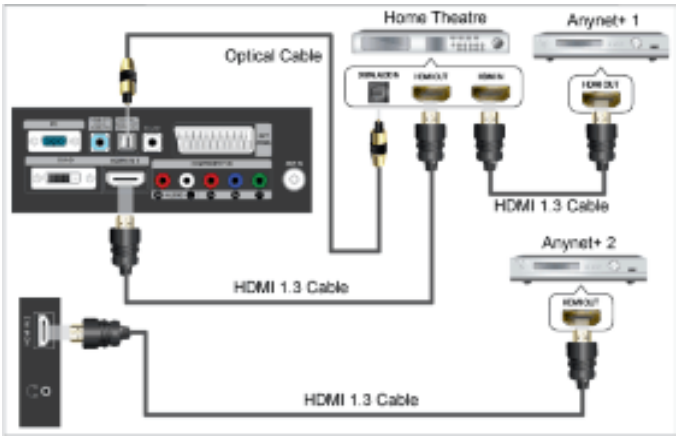
VCR / **DVD** / **Cable STB** / **Satellite STB** / **PVR STB** / **AV Receiver** / **Game** / **Camcorder** / **PC** / **DVI** / **DVI PC** / **TV** / **IP TV** / **Blue-ray** / **HD DVD** / **DMA**

Anynet+ (HDMI-CEC)

What is Anynet+?

Anynet+ is a function that enables you to control all connected Samsung devices thatsupport **Anynet+** with your Samsung TV's remote. The **Anynet+** system can be used onlywith Samsung devices that have the **Anynet+** feature. To be sure your Samsung devicehas this feature, check if there is an **Anynet+** logo on it.

Connecting Anynet+ Devices



1. Connect the *HDMI IN* (1 or 2) jack on the TV and the HDMI OUT jack of the corresponding **Anynet+** device using an HDMI cable.

2. Connect the *HDMI IN* jack of the home theatre and the HDMI OUT jack of the corresponding **Anynet+** device using an HDMI cable.

Note

Connect the Optical cable between the DIGITAL AUDIO OUT (OPTICAL) jack on your TV and the Digital Audio Input on the Home Theatre.

When following the connection above, the Optical jack only outputs 2 channel audio. You will only hear sound from the Home Theatre's Front Left and Right speakers and the subwoofer. If you want to hear 5.1 channel audio, connect the DIGITAL AUDIO OUT (OPTICAL) jack on the DVD / Satellite Box (ie Anynet Device 1 or 2) directly to the Amplifier or Home Theatre, not the TV.

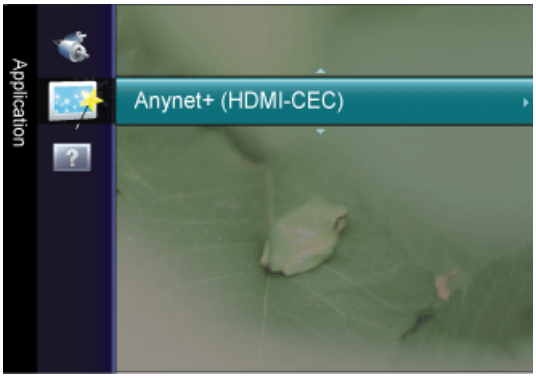
Connect only one Home Theatre.

You can connect an **Anynet+** device using the HDMI 1.3 cable. Some HDMI cables may not support Anynet+ functions.

Anynet+ works when the AV device supporting Anynet+ is in the Standby or On status.

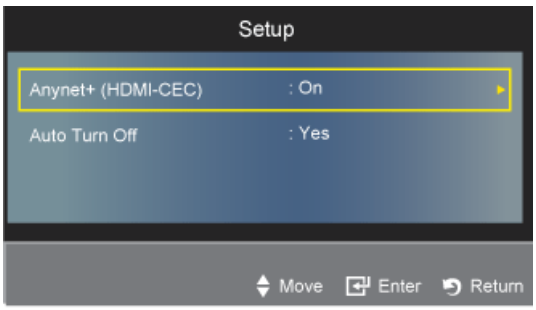
Anynet+ supports up to 10 AV devices in total. Note that you can connect up to 3 devices of the same type.

Setting Up Anynet+



Press the *TOOLS* button to display the **Tools** menu. You can also display **Anynet+** menu by selecting **Tools** → **Anynet+ (HDMI-CEC)**

Setup



Anynet+ (HDMI-CEC)

To use the **Anynet+** Function, **Anynet+ (HDMI-CEC)** must be set to On.

Note

When the **Anynet+ (HDMI-CEC)** function is disabled, all the **Anynet+** related operations are deactivated.

Auto Turn Off

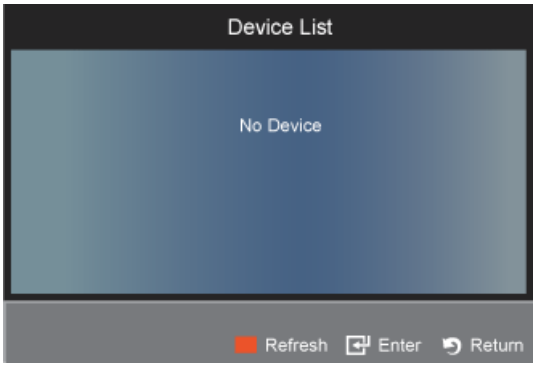
Setting an **Anynet+** Device to turn Off automatically when the TV is Turned Off and setting a TV to turn off automatically when a HDMI-CEC device requestes tv to turn off.

Note

The active source on the TV remote must be set to TV to use the **Anynet+** function.

If you set Auto Turn Off to Yes, connected external devices are also turned off when the TV is turned off. If an external device is still recording, it may or may not turn off.

Device List



1. Press the *TOOLS* button. Press the ENTER button to select **Anynet+ (HDMI-CEC)**.

2. Press the ▲ or ▼ button to select **Device List**, then press the ENTER button.

- **Anynet+** devices connected to the TV are listed.

- If you cannot find a device you want, press the red button to scan for devices.

3. Press the ▲ or ▼ button to select a particular device and press the ENTER button. It is switched to the selected device.

- Only when you set **Anynet+ (HDMI-CEC)** to On in the **Application** menu, the **Device List** menu appears.

Note

Switching to the selected devices may take up to 2 minutes. You cannot cancel the operation during the switching operation.

The time required to scan for devices is determined by the number of connected devices.

When the device scan is complete, the number of devices found are not displayed.

Although the TV automatically searches the device list when the TV is turned on via the power button, devices connected to the TV when the TV may not always be automatically displayed in the device list. Press the red button to search for the connected device.

If you have selected external input mode by pressing the *SOURCE* button, you cannot use the **Anynet+** function. Make sure to switch to an **Anynet+** device by using the **Device List**.

Support

Self Diagnosis

Picture Test

If you think you have a picture problem, perform the picture test. Check the colour pattern on the screen to see if the problem still exists.

- **Yes** : If the test pattern does not appear or there is noise in the test pattern, select **Yes**. There may be a problem with the TV. Contact Samsung's call centre for assistance.
- **No** : If the test pattern is properly displayed, select **No**. There may be a problem with your external equipment. Please check your connections. If the problem still persists, refer to the external device's user manual.

Sound Test

If you think you have a sound problem, please perform the sound test. You can check the sound by playing a built-in melody sound through the TV.

- **Yes**: If during the sound test you can hear sound only from one speaker or not at all, select **Yes**. There may be a problem with the TV. Contact Samsung's call centre for assistance.
- **No**: If you can hear sound from the speakers, select **No**. There may be a problem with your external equipment. Please check your connections. If the problem still persists, refer to the external device's user manuall.

Note

If you hear no sound from the TV's speakers, before performing the sound test, make sure **Speaker Select** is set to **TV speaker** in the **Sound** menu.

The melody will be heard during the test even if **Speaker Select** is set to **External Speaker** or the sound is muted by pressing the *MUTE* button.

Signal Information (digital channels only)

Unlike analogue channels, which can vary in reception quality from snowy to clear, digital (HDTV) channels have either perfect reception quality or you will not receive them at all. So, unlike analogue channels, you cannot fine tune a digital channel. You can, however, adjust your antenna to improve the reception of available digital channels.

Note

If the signal strength meter indicates that the signal is weak, physically adjust your antenna to increase the signal strength. Continue to adjust the antenna until you find the best position with the strongest signal.

Software Upgrade

Samsung may offer upgrades for TV's firmware in the future.

BY Channel

Upgrades the software using the broadcasting signal.

Standby Mode Upgrade

To continue software upgrade with master power on, select on by pressing the ▲ or ▼ button. 45 minutes after entering standby mode, a manual upgrade is automatically conducted. Since the power of the unit is turned on internally, the screen may be on slightly for the LCD product. This phenomenon may continue for more than 1 hour until the software upgrade is completed.

Alternative Software

If **Alternative Software** is existing, this menu will be activated. You can change the software to previous version.

Note

If software was changed, existing software is displayed.

You can change current software to alternative software by `**Alternative Software**`.

Software is represented as `Year / Month / Day_Version`. The later the date, the newer the software version. Installing the latest version is.

HD Connection Guide

This menu presents the connection method that provides the optimal quality for the HDTV. Refer to this information when connecting external devices to the TV.

Contact Samsung

View this information when your TV does not work properly or when you want to upgrade the software. You can view the information regarding the call centre, product and software file download method.newer the software version. Installing the latest version is.

Troubleshooting

Self-Test Feature Check

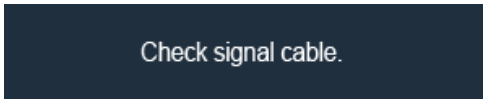
Note

- Check the following items yourself before calling for service. Contact the service center for problems that you cannot solve by yourself.
- Your monitor provides a self test feature that allows you to check whether your monitor is functioning properly.

Self-Test Feature Check

1. Turn off both your computer and the monitor.
2. Unplug the video cable from the back of the computer.
3. Turn on the monitor.

   The figure shown below ("**Check Signal Cable**") appears on a black background when the monitor is in its normal working condition though it does not sense any video signal: While in the Self-Test mode, the LED power indicator remains green and the figure moves around on the screen.



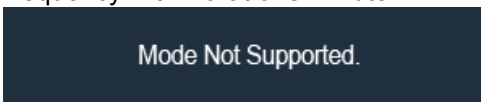
4. Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.

If your monitor screen remains blank after using the previous procedure, check your video controller and computer system; *your monitor is functioning properly.*

Not Optimum Mode

If the vertical resolution is not optimum mode, you can still see the display but the warning message below appears and disappears after one minute.

The user must adjust the frequency within that one minute.



Note

Refer to Specifications > Preset Timing Modes for the resolutions or frequencies that are supported by the monitor.

Maintenance and Cleaning

1. Maintaining the Monitor Case.

Clean with a soft cloth after disconnecting the power cord.

- Do not use benzene, thinner or other flammable substances, or a wet cloth.
- We recommend a Samsung cleansing agent is used to prevent damage to the screen.

2. Maintaining the Flat Panel Display Screen.

Clean with a soft cloth (cotton flannel) smoothly.

- Never use acetone, benzene or thinner.

  (They may cause flaws or deformation of the screen surface.)
- The user will be required to pay costs and related expenses for repair of damages caused by him/her.

Symptoms and Recommended Actions

Note

A monitor recreates visual signals received from the computer. Therefore, if there is trouble with the computer or the video card, this can cause the monitor to become blank, have poor coloring, noise, Video mode not supported, etc. In this case, first check the SOURCE of the problem, and then contact a service center or your dealer.

1. Check if the power cord and the video cables are properly connected to the computer.

2. Check if the computer beeps more than 3 times when booting.

(If it does, request an after-service for the main board of the computer.)

3. If you installed a new video card or if you assembled the PC, check if you installed the adapter(video) driver and the monitor driver.

4.Check if the scanning ratio of the video screen is set at 56 Hz ~ 75 Hz.

(Do not exceed 60 Hz when using the maximum resolution.)

5. If you have problems in installing the adapter (video) driver, boot the computer in Safe Mode, remove the Display Adapter at the "Control Panel, System, Device Administrator" and then reboot the computer to reinstall the adapter (video) driver.

Check List

Note

Before calling for assistance, check the information in this section to see if you can remedy any problems yourself. If you do need assistance, please call the phone number on the Information section or contact your dealer.

1. Problems related to Installation

Note

Problems related to the monitor installation and their solutions are listed.

PC Mode

Q: It appears the PC does not function normally.

A: Check if the Display Adapter Driver (VGA Driver) is properly installed. (Refer to Installing Driver)

Q: The monitor screen flickers.

A: Check if the signal cable between the computer and the monitor is securely connected and tightened.(Refer to Connecting the monitor)

TV Mode

Q: TV screen is blurred or shows noise signals.

A: Check if the TV antenna connector is securely connected to the external antenna.(Refer to Connecting TV)

2. Problems related to Screen

Note

Problems related to the monitor screen and their solutions are listed.

Q: Screen is blank and power indicator is off

A: Ensure that the power cord is firmly connected and the LCD monitor is on.(Refer to the Connecting the monitor)

Q: "**Check Signal Cable**" message

A: Ensure that the signal cable is firmly connected to the PC or video SOURCEs.(Refer to the Connecting the monitor)

A: Ensure that the PC or video SOURCEs are turned on.

Q: "**Not Optimum Mode**" message

A: Check the maximum resolution and the frequency of the video adapter.

A: Compare these values with the data in the Preset Timing Modes Chart.

Q: Picture rolls vertically.

A: Check if the signal cable is securely connected.Connect it again securely. (Refer to Connecting the monitor)

Q: Image is not clear. Picture is blurred.

A: Run Frequency Coarse and Fine tuning.

A: Turn on again after removing all accessories(video extension cable, etc.)

A: Set resolution and frequency to the recommended ranges.

Q: Picture image is unstable and vibrates.

Ghost images are shown in the picture.

A: Check if the resolution and frequency set for the computer video card falls in the range supported by the monitor. If not, reset them referring to the current Information under the monitor menu and Preset Timing Modes.

Q: The image is too light or too dark

A: Adjusts the **Brightness** and **Contrast**.

Q: The Power Indicator blinks.

A: The monitor is currently saving the changes made in the settings to the OSD memory.

Q: The screen is blank and the power indicator light blinks every 0.5 or 1 seconds.

A: The monitor is using its power management system.

Press any key on the keyboard.

Q: The screen is blank and is blinking.

A: If you see the "TEST GOOD" message on the screen when you press the MENU button, check the cable connection between the monitor and the computer to ensure that the connector is properly connected.

3. Problems related to Audio

Note

Problems related to audio signals and their solutions are listed below.

Q: No sound

A: Ensure that the audio cable is firmly connected to both the audio-in port on your monitor and the audio-out port on your sound card.(Refer to the Connecting the monitor)

A: Check the volume level.

Q: The sound level is too low.

A: Check the volume level.

A: If the volume is still too low after turning the control to its maximum, check the volume control on the computer sound card or software program.

4. Problems related to Remote Control

Note

Problems related to the remote control and their solutions are listed.

Q: The remote control buttons do not respond.

A: Check the battery polarities (+/-).

A: Check if the batteries have been exhausted.

A: Check if the power is on.

A: Check if the power cord is securely connected.

A: Check if a special fluorescent or neon lamp is on in the vicinity

5. You may see small particles if you look closely at the edge of the bezel surrounding the screen.

This is part of the product's design and is not a defect.

Q & A

Q: How can I change the frequency?

A: The frequency can be changed by reconfiguring the video card.

A: Note that video card support can vary, depending on the version of the driver used. (Refer to the computer or the video card manual for details.)

Q: How can I adjusts the resolution?

A: Windows XP:

Set the resolution in the Control Panel → Appearance and Themes → Display → Settings.

A: Windows ME/2000:

Set the resolution in the Control Panel → Display → Settings.

* Contact the video card manufacturer for details.

Q: How can I set the Power Saving function?

A: Windows XP:

Set the resolution in the Control Panel → Appearance and Themes → Display → Screen Saver.

Set the function in the BIOS-SETUP of the computer. (Refer to the Windows / Computer Manual).

A: Windows ME/2000:

Set the resolution at the Control Panel → Display → Screen Saver.

Set the function in the BIOS-SETUP of the computer. (Refer to the Windows / Computer Manual).

Q: How can I clean the outer case/LCD Panel?

A: Disconnect the power cord and then clean the monitor with a soft cloth, using either a cleaning solution or plain water.

Do not leave any detergent or scratches on the case. Do not let any water enter the monitor.

Q: What are the benefits of digital broadcasting?

A: Digital TV broadcasting generates less noise and provides clearer visuals and sound than analog TV broadcasting does. As services develop, you can also enjoy various information services because various kinds of data besides video and audio can be sent.

A: For example, while watching a sports game, you can view various data on your favorite player or you can view all or selected screens which have been captured from different angles for a specific scene. In addition, you can receive information on a previous story

or drama or you can buy home shopping products such as an accessory currently on TV.

Digital TV broadcasting allows you to easily access various information services in your home creating a more information-oriented home.

Q: Can I watch digital TV broadcasting with an analog TV?

A: No.

A: The analog TV cannot interpret digital signals. Therefore, a digital TV is required to watch digital TV broadcasting.

Q: Can I use my present antenna to receive digital broadcasting?

A: As for existing analog TV, digital TV is designed so that digital broadcasting signals are received via both indoor and outdoor antennas.

A: If signal reception is very good in your environment, you can watch digital broadcasts with your existing indoor antenna. If not, it is better to install an outdoor UHF antenna.

Q: How do I connect an antenna for an apartment or tenement house?

A: Consult the superintendent's office or broadcasting facility administrator for your apartment or tenement house to check whether UHF reception is available.

A: Even if digital TV broadcasting is available in your area, if you cannot watch it because the superintendent's office or common broadcasting facility does not rebroadcast the signal, you have to install an indoor or outdoor antenna.

A: Alternatively, your local cable broadcasting company provides a digital TV service, and you can subscribe to it.

A: If a cable broadcasting company is sharing a common broadcasting facility for your apartment or tenement house, it has to adjust and send digital TV signals so that they are compatible to shared viewing which is the original purpose of the common broadcasting facility.

Specifications

General

Model Name	SyncMaster T200HD / SyncMaster T220HD / SyncMaster T240HD / SyncMaster T260HD	
T200HD	LCD Panel	
	Size	20 inch (51 cm)
	Display area	433.44 mm (H) x 270.90 mm (V)
	Pixel Pitch	0.258 mm (H) x 0.258 mm (V)
	Display Color	
	16.7M	
	Maximum Pixel Clock	
	146.250 MHz (Analog, Digital)	
	Resolution	
	Optimum resolution	1680 x 1050 @ 60 Hz
	Maximum resolution	1680 x 1050 @ 60 Hz
	Dimensions (W x H x D) / Weight	
	486 x 350 x 75 mm / 19.1 x 13.8 x 3.4 inch (Without Stand) 486 x 417.5 x 215 mm / 19.1 x 16.4 x 8.5 inch (With Stand) / 5.6 kg / 12.3 lbs	
T220HD	LCD Panel	
	Size	22 inch (55 cm)
	Display area	473.76 mm (H) x 296.1 mm (V)
	Pixel Pitch	0.282 mm (H) x 0.282 mm (V)
	Display Color	
	16.7M	
	Maximum Pixel Clock	
	146.250 MHz (Analog, Digital)	
	Resolution	
	Optimum resolution	1680 x 1050 @ 60 Hz
	Maximum resolution	1680 x 1050 @ 60 Hz
	Dimensions (W x H x D) / Weight	
	520 x 373.5 x 86.5 mm / 20.5 x 14.7 x 3.4 inch (Without Stand) 520 x 441.5 x 215 mm / 20.5 x 17.4 x 8.5 inch (With Stand) / 5.8 kg / 12.8 lbs	
T240HD	LCD Panel	
	Size	24 inch (61 cm)
	Display area	518.4 mm (H) x 324.0 mm (V)
	Pixel Pitch	0.270 mm (H) x 0.270 mm (V)
	Display Color	
	16.7M	

	Maximum Pixel Clock	
	162.000 MHz (Analog, Digital)	
	Resolution	
	Optimum resolution	1920 x 1200 @ 60 Hz
	Maximum resolution	1920 x 1200 @ 60 Hz
	Dimensions (W x H x D) / Weight	
	573 x 409 x 87 mm / 22.6 x 16.1 x 3.4 inch (Without Stand) 573 x 477 x 245 mm / 22.6 x 18.8 x 9.6 inch (With Stand) / 7.3 kg / 16.1 lbs	
T260HD	LCD Panel	
	Size	25.5 inch (64 cm)
	Display area	550.08 mm (H) x 343.8 mm (V)
	Pixel Pitch	0.2865 mm (H) x 0.2865 mm (V)
	Display Color	
	16.7M	
	Maximum Pixel Clock	
	162.000 MHz (Analog, Digital)	
	Resolution	
	Optimum resolution	1920 x 1200 @ 60 Hz
	Maximum resolution	1920 x 1200 @ 60 Hz
	Dimensions (W x H x D) / Weight	
	610 x 435 x 86.5 mm / 24.0 x 17.1 x 3.4 inch (Without Stand) 610 x 502.5 x 245 mm / 24.0 x 19.8 x 9.6 inch (With Stand) / 8.6 kg / 19.0 lbs	

Synchronization

Horizontal	30 ~ 81 kHz
Vertical	56 ~ 75 Hz

Input Signal, Terminated

RGB Analog, DVI(Digital Visual Interface)

0.7 Vp-p ±5 %

separate H/V sync, Composite

TTL level (V high ≥ 2.0 V, V low ≤ 0.8 V)

Power Supply

AC 100 - 240 V~ (+/- 10 %), 50/60 Hz ± 3 Hz

Signal Cable

15pin - to - 15pin D-sub cable, Detachable

DVI-D to DVI-D connector, Detachable

Environmental considerations	
Operating	Temperature : 50 °F ~ 104 °F (10 °C ~ 40 °C) Humidity : 10 % ~ 80 %, non-condensing
Storage	Temperature : -4 °F ~ 113 °F (-20 °C ~ 45 °C) Humidity : 5 % ~ 95 %, non-condensing

Plug and Play Capability

This monitor can be installed on any Plug & Play compatible system. The interaction of the monitor and the computer systems will provide the best operating conditions and monitor settings. In most cases, the monitor installation will proceed automatically, unless the user wishes to select alternate settings.

Dot Acceptable

TFT-LCD panels manufactured by using advanced semiconductor technology with precision of 1ppm (one millionth) above are used for this product. But the pixels of RED, GREEN, BLUE and WHITE color appear to be bright sometimes or some black pixels may be seen. This is not from bad quality and you can use it without any problems.

For example, the number of TFT-LCD sub pixels contained in this product are 5,292,000. (T200HD, T220HD)

For example, the number of TFT-LCD sub pixels contained in this product are 6,912,000. (T240HD, T260HD)

Note

Design and specifications are subject to change without prior notice.

Class B Equipment (Information Communication equipment for residential use)

This product complies with the Electromagnetic Compatibility Directives for residential use and can be used in all areas including common residential areas. (Class B equipment emits less electromagnetic waves than Class A equipment.)

PowerSaver

This monitor has a built-in power management system called PowerSaver. This system saves energy by switching your monitor to low-power mode when it has not been used for a certain amount of time. The monitor automatically returns to normal operation when you press a key on the keyboard. For energy conservation, turn your monitor OFF when it is not needed, or when leaving it unattended for long periods. The PowerSaver system operates with a VESA DPM compliant video card installed in your computer. Use the software utility installed on your computer to set up this feature.

T200HD

State	Normal Operation	Power saving mode	Power off (Power button) EPA/ENERGY 2000
Power Indicator	On	Blinking	Off
Power Consumption	45 watts	Less than 2 watts	Less than 1 watts

T220HD

State	Normal Operation	Power saving mode	Power off (Power button) EPA/ENERGY 2000
Power Indicator	On	Blinking	Off
Power Consumption	50 watts	Less than 2 watts	Less than 1 watts

T240HD

State	Normal Operation	Power saving mode	Power off (Power button) EPA/ENERGY 2000
Power Indicator	On	Blinking	Off
Power Consumption	55 watts	Less than 2 watts	Less than 1 watts

T260HD

State	Normal Operation	Power saving mode	Power off (Power button) EPA/ENERGY 2000
Power Indicator	On	Blinking	Off
Power Consumption	57 watts	Less than 2 watts	Less than 1 watts

This monitor is EPA ENERGY STAR® compliant and ENERGY 2000 compliant when used with a computer equipped with VESA DPM functionality.

As an ENERGY STAR® Partner, SAMSUNG has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

Preset Timing Modes

If the signal transferred from the computer is the same as the following Preset Timing Modes, the screen will be adjusted automatically. However, if the signal differs, the screen may go blank while the power LED is on. Refer to the video card manual and adjusts the screen as follows.

T200HD, T220HD

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
IBM, 640 x 350	31.469	70.086	25.175	+/-
IBM, 640 x 480	31.469	59.940	25.175	-/-
IBM, 720 x 400	31.469	70.087	28.322	-/+
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
MAC, 1152 x 870	68.681	75.062	100.000	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
VESA, 1280 x 960	60.000	60.000	108.000	+/+
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+
VESA, 1680 x 1050	65.290	59.954	146.250	-/+

T240HD, T260HD

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
IBM, 640 x 350	31.469	70.086	25.175	+/-
IBM, 640 x 480	31.469	59.940	25.175	-/-
IBM, 720 x 400	31.469	70.087	28.322	-/+
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
MAC, 1152 x 870	68.681	75.062	100.000	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
VESA, 1280 x 960	60.000	60.000	108.000	+/+
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+
VESA, 1600 x 1200	75.976	60.000	162.000	+/+
VESA, 1920 x 1200	74.038	59.950	154.000	+/-

Horizontal Frequency

The time to scan one line connecting the right edge to the left edge of the screen horizontally is called the Horizontal Cycle and the inverse number of the Horizontal Cycle is called the Horizontal Frequency. Unit: kHz

Vertical Frequency

Like a fluorescent lamp, the screen has to repeat the same image many times per second to display an image to the user. The frequency of this repetition is called the Vertical Frequency or Refresh Rate. Unit: Hz

Information

For Better Display

Adjust the computer resolution and screen injection rate (refresh rate) on the computer as described below to enjoy the best picture quality. You can have an uneven picture quality on screen if the best picture quality is not provided for TFT-LCD.

- Resolution: 1680 x 1050 (T200HD, T220HD) , 1920 x 1200 (T240HD, T260HD)
- Vertical frequency (refresh rate): 60 Hz

TFT-LCD panels manufactured by using advanced semiconductor technology with a precision of 1ppm (one millionth) and above is used for this product. But the pixels of RED, GREEN, BLUE and WHITE color seem to be bright sometimes or some of black pixels could be seen. This is not from bad quality and you can use it without any problems.

- For example, the number of TFT-LCD sub pixels contained in this product are 5,292,000. (T200HD, T220HD)
- For example, the number of TFT-LCD sub pixels contained in this product are 6,912,000. (T240HD, T260HD)

When cleaning the monitor and the panel outside, please apply the recommended small amount of cleaner by using a soft cloth to polish. Do not force the LCD area but rub softly.

If excessive force is applied, you may stain it.

If you are not satisfied with the picture quality, you can get better quality of picture by performing the "**Auto Adjustment** function" in display screen that is appeared as window termination button is pressed.

If there's still noise after the automatic adjustment, use the **Fine**/**Coarse** adjustment function.

When viewing a fixed screen for an extended period of time, a residual image or blurriness may appear.

Change the mode to energy save or set a screensaver to move the picture when you need to be away from the monitor for an extended period of time.

Do not display a still image(such as on a video game or when hooking up a DVD to this LCD_TV) on the Color TFT-LCD (Thin Film Transister Liquid Crystal Display) panel for a long time as it can cause screen image retention. This image retention is also known as "screen burn". To avoid such image retention, reduce the degree of brightness and contrast of this screen when displaying a still image.

PRODUCT INFORMATION (Image Retention Free)

LCD Monitors and TVs may have image retention when switching from one image to another especially after displaying a stationary image for a long time.

This guide is to demonstrate correct usage of LCD products in order to protect them from Image retention.

Warranty

Warranty does not cover any damage caused by image retention.

Burn-in is not covered by the warranty.

What is Image retention ?

During normal operation of a LCD panel, pixel image retention doesn't occur. However, if the same image is displayed for a long time, a slight difference in electric charge accumulates between the two electrodes which encase the liquid crystal. This may cause the liquid crystal to build up in a certain areas of the display. Thus, the previous image is retained when switching to a new video image. All display products, including LCD, are subject to image retention. This is not a product defect.

Please follow the suggestions below to protect your LCD from image retention.

Power Off, Screen Saver, or Power Save Mode

Ex)

- Turn the power off when using a stationary pattern.
  - Turn the power off for 4 hours after 20 hours in use
  - Turn the power off for 2 hours after 12 hours in use
- Use a Screen saver if possible
  - Screen saver in one color or a moving image is recommended.
- Set the Monitor to power off with the PC Display Properties Power Scheme.

Suggestions for specific applications

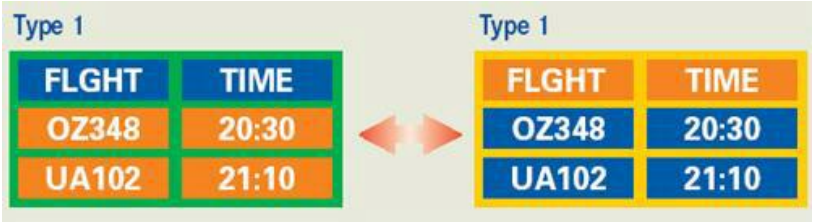
Ex) Airports, Transit Stations, Stock Markets, Banks, and Controlling Systems We recommend that you follow set up of your display system program as below:

Display Information together with Logo or Moving image cycle.

Ex) Cycle : Display Information for 1 hour followed by a Display Logo or moving image for 1 minute.

Change the Color Information periodically (Use 2 different colors).

Ex) Rotate the Color Information with 2 colors every 30 minutes.



Avoid using a combination of characters and background color with large difference in luminance.

Avoid using Grey colors, which can cause Image retention easily.

- Avoid: Colors with big difference in luminance (Black & White, Grey)

  Ex)

- Recommended settings: Bright colors with little difference in luminance
  - Change the characters color and background color every 30 minutes

    Ex)

  - Every 30 minutes, change the characters with movement.

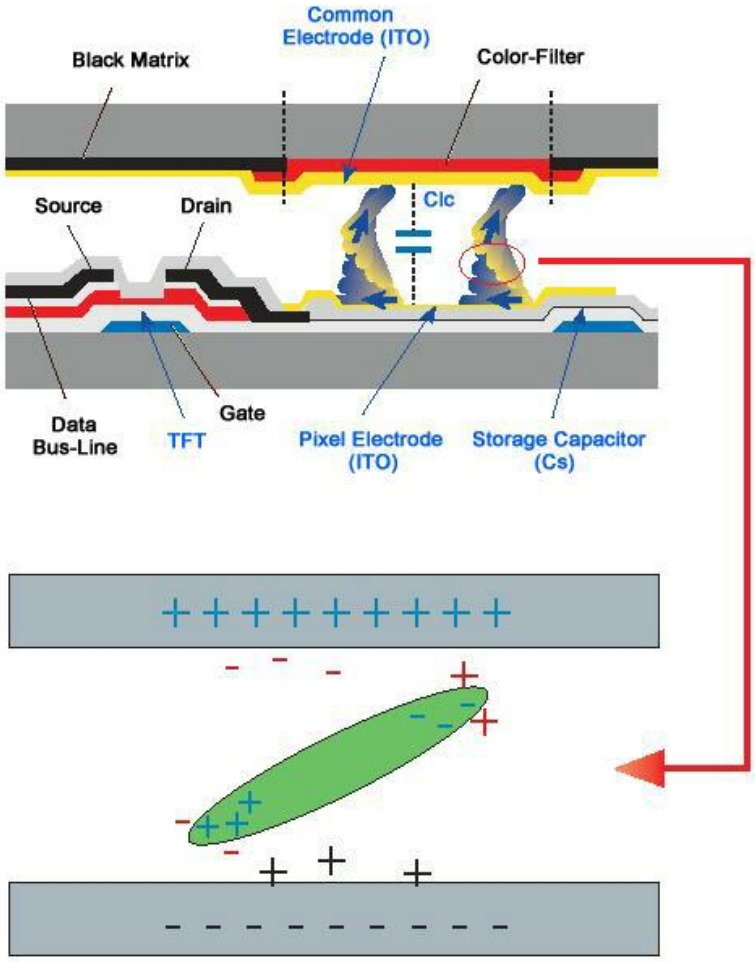
    Ex)

The best way to protect your monitor from Image retention is to set your PC or System to operate a Screen Saver program when you are not using it.

Image retention may not occur when a LCD panel is operated under normal conditions.

Normal conditions are defined as continuously changing video patterns. When the LCD panel is operated for a long time with a fixed pattern (-over 12 hours-), there may be slight difference in voltage between electrodes that work the liquid crystal (LC) in a pixel. The voltage difference between electrodes increases with time, forcing the liquid crystal to lean. When this occurs, the previous image may be seen when the pattern is changed.

To prevent this, the accumulated voltage difference must be decreased.



Our LCD Monitor satisfies ISO13406-2 Pixel fault Class II

Appendix

Contact SAMSUNG WORLDWIDE

Note

If you have any questions or comments relating to Samsung products, please contact the SAMSUNG customer care center.

	North America	
U.S.A	1-800-SAMSUNG(726-7864)	http://www.samsung.com/us
CANADA	1-800-SAMSUNG(726-7864)	http://www.samsung.com/ca
MEXICO	01-800-SAMSUNG (726-7864)	http://www.samsung.com/mx
	Latin America	
ARGENTINE	0800-333-3733	http://www.samsung.com/ar
BRAZIL	0800-124-421 4004-0000	http://www.samsung.com/br
CHILE	800-SAMSUNG(726-7864)	http://www.samsung.com/cl
COLOMBIA	01-8000112112	http://www.samsung.com/co
COSTA RICA	0-800-507-7267	http://www.samsung.com/lat-in
ECUADOR	1-800-10-7267	http://www.samsung.com/lat-in
EL SALVADOR	800-6225	http://www.samsung.com/lat-in
GUATEMALA	1-800-299-0013	http://www.samsung.com/lat-in
HONDURAS	800-7919267	http://www.samsung.com/lat-in
JAMAICA	1-800-234-7267	http://www.samsung.com/lat-in
NICARAGUA	00-1800-5077267	http://www.samsung.com/lat-in
PANAMA	800-7267	http://www.samsung.com/lat-in
PUERTO RICO	1-800-682-3180	http://www.samsung.com/lat-in
REP. DOMINICA	1-800-751-2676	http://www.samsung.com/lat-in
TRINIDAD & TOBAGO	1-800-SAMSUNG(726-7864)	http://www.samsung.com/lat-in
VENEZUELA	0-800-100-5303	http://www.samsung.com/lat-in
	Europe	
AUSTRIA	0810 - SAMSUNG (7267864, € 0.07/min)	http://www.samsung.com/at

Europe

BELGIUM	02 201 2418	http://www.samsung.com/be (Dutch) http://www.samsung.com/be_fr (French)
CZECH REPUBLIC	800 - SAMSUNG (800-726786)	http://www.samsung.com/cz
	[illegible]	
DENMARK	8 - SAMSUNG (7267864)	http://www.samsung.com/dk
EIRE	0818 717 100	http://www.samsung.com/ie
FINLAND	30 - 6227 515	http://www.samsung.com/fi
FRANCE	01 4863 0000	http://www.samsung.com/fr
GERMANY	01805 - SAMSUNG (7267864, € 0.14/Min)	http://www.samsung.de
HUNGARY	06-80-SAMSUNG (726-7864)	http://www.samsung.com/hu
ITALIA	800-SAMSUNG (726-7864)	http://www.samsung.com/it
LUXEMBURG	02 261 03 710	http://www.samsung.com/lu
NETHERLANDS	0900-SAMSUNG (0900-7267864) (€ 0,10/Min)	http://www.samsung.com/nl
NORWAY	3 - SAMSUNG (7267864)	http://www.samsung.com/no
POLAND	0 801 1SAMSUNG (172678) 022 - 607 - 93 - 33	http://www.samsung.com/pl
PORTUGAL	808 20 - SAMSUNG (7267864)	http://www.samsung.com/pt
SLOVAKIA	0800-SAMSUNG (726-7864)	http://www.samsung.com/sk
SPAIN	902 - 1 - SAMSUNG(902 172 678)	http://www.samsung.com/es
SWEDEN	075 - SAMSUNG (726 78 64)	http://www.samsung.com/se
SWITZERLAND	0848 - SAMSUNG (7267864, CHF 0.08/min)	http://www.samsung.com/ch
U.K	0845 SAMSUNG (7267864)	http://www.samsung.com/uk

CIS

ESTONIA	800-7267	http://www.samsung.com/ee
LATVIA	8000-7267	http://www.samsung.com/lv
LITHUANIA	8-800-77777	http://www.samsung.com/lt
KAZAKHSTAN	8-10-800-500-55-500	http://www.samsung.com/kz_ru
KYRGYZSTAN	00-800-500-55-500	
RUSSIA	8-800-555-55-55	http://www.samsung.ru
TADJIKISTAN	8-10-800-500-55-500	
UKRAINE	8-800-502-0000	http://www.samsung.ua
UZBEKISTAN	8-10-800-500-55-500	http://www.samsung.com/kz_ru

	Asia Pacific	
AUSTRALIA	1300 362 603	http://www.samsung.com/au
CHINA	800-810-5858	http://www.samsung.com/cn
	400-810-5858	
	010-6475 1880	
	HONG KONG:3698 - 4698	http://www.samsung.com/hk
INDIA	3030 8282	http://www.samsung.com/in
	1-800-3000-8282	
	1800 110011	
INDONESIA	0800-112-8888	http://www.samsung.com/id
JAPAN	0120-327-527	http://www.samsung.com/jp
MALAYSIA	1800-88-9999	http://www.samsung.com/my
NEW ZEALAND	0800 SAMSUNG(0800 726 786)	http://www.samsung.com/nz
PHILIPPINES	1-800-10-SAMSUNG (726-7864)	http://www.samsung.com/ph
	1-800-3-SAMSUNG (726-7864)	
	02-5805777	
SINGAPORE	1800-SAMSUNG(726-7864)	http://www.samsung.com/sg
THAILAND	1800-29-3232, 02-689-3232	http://www.samsung.com/th
TAIWAN	0800-329-999	http://www.samsung.com/tw
VIETNAM	1 800 588 889	http://www.samsung.com/vn
	Middle East & Africa	
SOUTH AFRICA	0860-SAMSUNG(726-7864)	http://www.samsung.com/za
TURKEY	444 77 11	http://www.samsung.com/tr
U.A.E	800-SAMSUNG(726-7864)	http://www.samsung.com/ae
	8000-4726	

Terms

Sync Signal

Sync (Synchronized) Signals refer to the standard signals that are required to display desired colors on the monitor. They are divided into Vertical and Horizontal Sync Signals. These signals display normal color images by the set resolution and frequency.

Types of Sync Signals

Separate

- This is a scheme of transmitting individual vertical and horizontal sync signals to the monitor.

Composite

- This is a scheme of combining vertical and horizontal sync signals into one composite signal and transmitting

	it to the monitor. The monitor displays the color signals by separating the composite signal into original color signals.
Dot Pitch	The image on a monitor is composed of red, green and blue dots. The closer the dots, the higher the resolution. The distance between two dots of the same color is called the 'Dot Pitch'. Unit: mm
Vertical Frequency	The screen must be redrawn several times per second in order to create and display an image for the user. The frequency of this repetition per second is called the Vertical Frequency or Refresh Rate. Unit: Hz Example: If the same light repeats itself 60 times per second, this is regarded as 60 Hz.
Horizontal Frequency	The time to scan one line connecting the right edge to the left edge of the screen horizontally is called the Horizontal Cycle. The inverse number of the Horizontal Cycle is called Horizontal Frequency. Unit: kHz
Interlace and Non-Interlace Methods	Showing the horizontal lines of the screen from the top to the bottom sequentially is called the Non-Interlace method while showing odd lines and then even lines in turn is called the Interlace method. The Non-Interlace method is used for the majority of monitors to ensure a clear image. The Interlace method is the same as that used in TVs.
Plug & Play	This is a function that provides the best quality screen for the user by allowing the computer and the monitor to exchange information automatically. This monitor follows the international standard VESA DDC for the Plug & Play function.
Resolution	The number of horizontal and vertical dots used to compose the screen image is called the 'resolution'. This number shows the accuracy of the display. A high resolution is good for performing multiple tasks as more image information can be shown on the screen. Example: If the resolution is 1680(1920) x 1050(1200), this means the screen is composed of 1680(1920) horizontal dots (horizontal resolution) and 1050(1200) vertical lines (vertical resolution).
RF Cable	A round signal cable generally used for TV antennas.
Satellite Broadcasting	Balances the levels of the sound coming from each speaker in televisions with two speakers.
Cable TV	Whereas the terrestrial broadcasting is delivered via frequency signals through the air, cable broadcasting is transmitted via a cable network. In order to view cable TV, one must purchase a cable receiver and hook it up to the cable network.
CATV	"CATV" refers to the broadcasting service offered at hotels, schools and other buildings through their own broadcasting system, apart from VHF or UHF broadcasting by terrestrial

	broadcasters. The CATV programs may include movies, entertainment and educational programs. (Different from cable TV.) CATV can be viewed only within the area in which the CATV service is offered.
VHF/UHF	VHF indicates TV channels 2 to 13, and UHF indicates channels 14 through 69.
Channel Fine Tuning	This feature allows the viewer to fine-tune the TV channel to obtain the best viewing conditions. The Samsung LCD TV has both automatic and manual channel fine-tuning features to enable the viewer to adjust their desired settings.
External Device Input	External device input refers to video input from such external video devices as VCRs, camcorders and DVD players, separate from a TV broadcast.
DVD	A type of digital disk technology that takes up only the benefits of CD and LD, to implement a high resolution/quality, which enables the user to enjoy clearer images.
DTV Broadcasting (Digital TV Broadcasting)	An enhanced broadcasting technology to process digital video signals using a set-top box, which implements a high resolution and clearer digital images on the screen.
LNA (Low Noise Amplifier)	This derives from artificial satellite technology that amplifies weak signals even in poor reception areas for sharper images.
Antenna Converter	A connection part that is used to link a Wide antenna cable (feeder cable) to the TV.
English Caption (= Caption Setting)	A kind of language selection feature that provides English subtitles (caption) or character information services from broadcasting services (ex: AFKN) or video tapes (marked CC), and which are especially useful for studying English.
Multiplex Broadcasting	This enables the user to enjoy the broadcasting service in both Korean and foreign (original) language as well as in stereo mode.
A2	This system uses two carriers to transmit voice data. Countries such as South Korea and Germany use this system.
BTSC	Broadcast Television System Committee. The stereo broadcasting system that is used in most of the countries that have adopted the NTSC system, including the United States, Canada, Chile, Venezuela and Taiwan. It also refers to the organization that has been organized to promote its development and management.
EIAJ	Electronic Industries Association of Japan.
DVI	DVI is the acronym for Digital Video Interface. It is a new type of video interface technology that provides the maximum screen quality for high quality display devices and high-end graphics cards including flat panel LCD monitors.

HDMI(High Definition Multimedia Interface)	This is an interface that connects both quality video signals and digital audio signals with a cable without any compression. • HD (High Definition) In HD, 1080-line, 2x density beaming (1080i) is used. HD provides a five times clearer screen quality than the existing analog method and has a wide 16:9 aspect ratio. • SD (Standard Definition) In SD, 480-line, double beaming (480i) is used. SD provides a screen quality somewhere between HD and the existing analog method. It exhibits a two times better screen quality than analog TV.
SRS TS XT	This feature outputs sonorous and vivid 3D sound as for 5.1 channel speaker sound but through a 2-channel speaker. It has a good effect when stereo signals are input.

Correct Disposal

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

Correct disposal of batteries in this product - Europe only

(Applicable in the European Union and other European countries with separate battery return systems.)

This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment.

To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system.

Authority

Information in this document is subject to change without notice.

© 2009 Samsung Electronics Co., Ltd. All rights reserved.

Reproduction in any manner whatsoever without the written permission of Samsung Electronics Co., Ltd. is strictly forbidden.

Samsung Electronics Co., Ltd. shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

Samsung is the registered trademark of Samsung Electronics Co., Ltd.; Microsoft, Windows and Windows NT are registered trademarks of Microsoft Corporation; VESA, DPM and DDC are registered trademarks of Video Electronics Standard Association; the ENERGY STAR® name and logo are registered trademarks of the U.S. Environmental Protection Agency (EPA). As an ENERGY STAR® Partner, Samsung Electronics Co., Ltd. has determined that this product meets the ENERGY STAR® guidelines for energy efficiency. All other product names mentioned herein may be the trademarks or registered trademarks of their respective owners.

SRS TruSurround XT

TruSurround XT, SRS and ● Symbol are trademarks of SRS Labs, Inc. TruSurround XT technology is incorporated under license from SRS Labs, Inc.

DOLBY DIGITAL PLUS

Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.